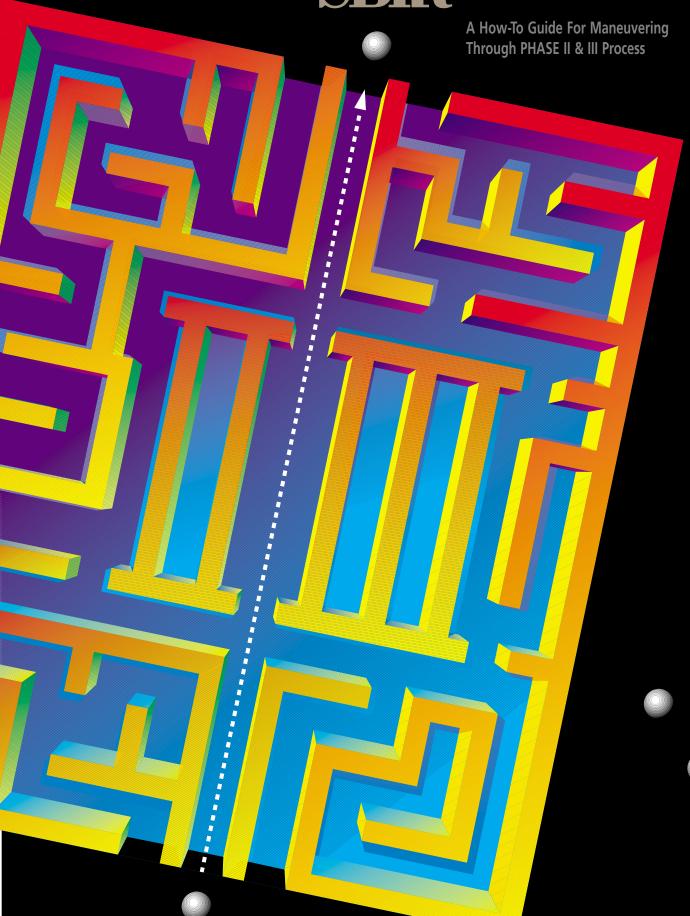
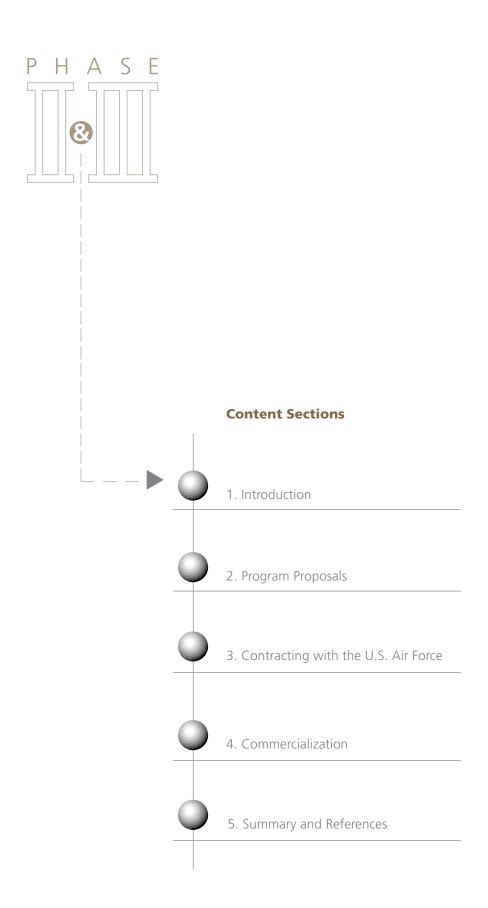
SBIR





SECTION 1:

Introduction

SBIR provides the bridge that transforms innovative ideas into reality.



Description of the Guidebook's Main Sections

Welcome to SBIR and all it has to offer! This section provides a brief overview of the Air Force's new single R&D laboratory organization, looks at the history of the Air Force SBIR Program and the purposes of the Phase II and Phase III Programs, and explains how you can benefit.

SECTION 2:

SBIR Phase II Program Proposals

How to create a dynamic proposal that can pay off with a Phase II award.



Section 2 discusses basic eligibility issues and limitations imposed to qualify for an award of a Phase II contract. Also included... how proposals are evaluated, kinds of research required, basic elements found in successful proposals, and preparation of sound cost considerations. Also covered are credibility factors in preparing proposals featuring advice for writing, presentation tips and ideas for pre-proposal Phase III commitments.

SECTION 3:

Contracting with the U.S. Air Force

An easy-to-follow blueprint for building the SBIR contract.



Section 3 offers an excellent practical overview on the real world of contracts that is sure to help a winning small business. Types of contracts, preparing for negotiations, the role of the Defense Contract Audit Agency, pre-award activities, government reporting requirements and property rights, among other subjects are discussed in easy-to-understand language.

SECTION 4:

Commercialization

How to increase the viability of your project by targeting commercial customers.



This section was developed to assist small businesses better understand commercial customers and their needs, to explain various proven alternatives for small businesses to gain additional funding, and to review today's requirements for a well-written commercial business plan.

SECTION 5:

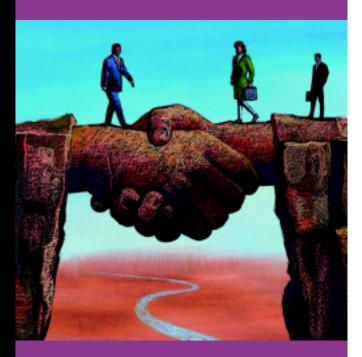
References

Your success is made easier by getting plugged into the right channels of support.



Section 5 provides extensive references concerning the SBIR Program and various options for small businesses to get extra assistance in both technical and financial support. References include a listing of SBIR Program brochures and related material, a glossary of frequently used contracting terms, state-operated small business contacts and SBIR assistance organizations.

Introduction



SBIR provides the bridge that transforms innovative ideas into reality.

Contents in Section 1

Purpose
Introduction to AFRL
Background
SBIR Program Phases
Summary

Purpose

This guide is designed to help you develop competitive proposals for the USAF SBIR Phase II Program and establish sound business plans for Phase III. It provides a practical approach to understanding key elements, processes, and information sources. You will find specific information and helpful hints provided by the USAF SBIR Program Executive, field program managers, venture capitalists, and previous Phase II/III awardees on how to win Phase II and Phase III contracts.

Please note that this guide is not a substitute for the Federal Acquisition Regulations (FAR), Department of Defense (DoD) FAR Supplement, or any manuals, instructions, handbooks, or other relevant documents. It is, however, intended to guide you in developing competitive Phase II and Phase III plans while reducing the unease many small firms experience at the prospect of dealing with the federal government bureaucracy.

You have taken the first step in the SBIR process by winning a Phase I award. You know some of the USAF players and a few of the challenging processes. The purpose of this guide is to make the follow-on process less daunting by providing you an easy-to-use, step-by-step instructional guide. Please read it carefully. If you have a good understanding of the Air Force's needs and terminology, the SBIR Program and process, and have a useful R&D project, you enjoy a big advantage. Good luck!

The Air Force Research Laboratory

The Air Force has organizationally consolidated its four previously existing laboratories and the Air Force Office of Scientific Research into a single Air Force laboratory — the Air Force Research Laboratory (AFRL). The Air Force SBIR Program is principally focused on serving the R&D requirements of AFRL. The new, streamlined organization is now effectively positioned to lead dynamic and essential Air Force science and technology efforts well into the next century.

AFRL's mission is to be the Air Force agent for identifying and providing advanced, affordable and integrated technologies that keep our Air Force the best in the world. Its partners and teammates include both academia and industry, with whom AFRL invests almost 80% of its budget in sponsored research and development.

Organized For Results

AFRL is organized along technology disciplines into nine technology directorates plus the Air Force Office of Scientific Research. Each technology directorate performs, procures, and synthesizes basic research, exploratory technology development and advanced technology development within its areas of responsibility with a clear mandate to provide integrated solutions to customer requirements.

TECHNOLOGY DIRECTORATES

■ Space Vehicles Directorate

Develops technologies to support evolving warfighter requirements to control and exploit space. Focus areas include the battlespace environment, protection of space assets, space vehicle control, space-based sensing, space vehicle technologies, wargaming, and broad spectrum integrated demonstrations.

Air Vehicles Directorate

Develops and integrates air vehicle technologies with primary emphasis on breakthrough technologies for long-term revolutionary fixed-wing vehicles. Technology focus areas involve aeromechanics, flight control, structures, vehicle subsystems, and air base technologies. Also develops technology options to improve the current capability and extend the service life of the present Air Force fleet of aircraft.

Information Directorate

Develops information technologies for aerospace command and control and its transition to air, space, and ground systems for Global Awareness, Dynamic Planning and Execution, and Global Information Exchange. Technology focus areas encompass a broad spectrum of information and fusion, communication, collaborative environments and modeling and simulation, defensive information warfare, and intelligent information systems technologies.

Munitions Directorate

Develops munitions technologies to defeat fixed target, mobile/relocatable air and space targets. Technology exploration concentrates on warheads, fuses, explosives, seekers, image and signal processing, navigation and control, assessment and subsystem integration.

Directed Energy Directorate

Develops moderate and high power laser devices; LIDAR systems; highly accurate optical acquisition, tracking, and pointing technology; active and passive optical imaging; high resolution optical imaging; high power electromagnetic weapons and countermeasures; and protection technologies. Explores pulsed power, nonlinear optics, lasers, target effects and vulnerability, and systems performance and mission effectiveness analysis.

Materials and Manufacturing Directorate

Develops materials, processes and manufacturing technologies for use in aircraft, spacecraft, missiles, rockets, and ground based systems and their structural, electronic and optical components. Areas of expertise include thermal protection materials, metallic and nonmetallic structural materials, nondestructive inspection, materials used in aerospace propulsion systems, electromagnetic and electronic materials, and laser hardened materials. Directorate is also responsible for Air Force technology programs that address environmental issues.

Sensors Directorate

Develops advanced sensors for both air and space reconnaissance, surveillance, precision engagement and electronic warfare applications. Key focus areas involve radar, active and passive electro-optical systems, electronic support measures and countermeasures, navigation aids and automatic target recognition.

Propulsion Directorate

Develops propulsion technologies for air and space vehicles, including turbine and rocket engines, advanced propulsion systems, and the fuels and propellants they run on. The directorate is also responsible for most forms of aeronautical power technology.

Human Effectiveness Directorate

Conducts research to improve the productivity of the warfighter in high-demand, high-threat, information-saturated environments. It discovers better ways to train our forces, improves their protective equipment, creates seamless interfaces between the human operator and weapon system, and seeks to sustain our forces over time and distance.

Air Force Office of Scientific Research

The Air Force Office of Scientific Research (AFOSR) manages the Air Force's entire basic research program. Its technical experts sponsor and direct basic research conducted in the nation's academic institutions, U.S. industry, and other government agencies. Using a

carefully balanced research portfolio, AFOSR's research managers create new technology and advance current knowledge, then quickly transition research accomplishments for further development.

SBIR Background

The Small Business Innovation Research (SBIR)
Program was initiated by the Small Business Innovation
Development Act of 1982, Public Law (PL) 97-219, and
amended by PL 99-443 and PL 102-564. These laws
require that all government agencies with
extramural research and development

(R&D) budgets in excess of \$100 million establish an SBIR Program and set aside a percentage of their R&D budgets for implementation by small businesses.

The primary objectives of the program are to stimulate technological innovation, strengthen the role of small businesses in meeting government research and development needs, foster and encourage the participation of minority and disadvantaged persons in technological innovation, and increase the commercial application of government-supported research.

The USAF portion of this program is administered by the USAF SBIR Program Executive located at the Air Force Research Laboratory (AFRL), Wright-Patterson Air Force Base, in Dayton, Ohio. The Program Executive is responsible for USAF SBIR policy, budget

distribution to field organizations, and the USAF portion of the Department of Defense (DoD) SBIR Solicitation. This responsibility includes oversight and monitoring of budget and contracting issues, interface with the Office of the Secretary of Defense (OSD), interaction with the Small Business Administration (SBA), and liaison with the small business community.

The SBIR
Phase II & III

Programs can

provide a strong

foundation

for small

businesses to

build upon their

technological

innovation.

SBIR Program Managers are the administrative points of contact at each of the AFRL's ten technology directorates.

Each Program Manager's individual directorate is responsible for managing its own budget, identifying and writing the research topics that appear in the solicitation, monitoring and evaluation of proposals for award, and overseeing progress after award. The Program Manager should become your first source for information concerning program administration.

SBIR project monitors act as the technical points of contact within AFRL. They are the topic authors and provide initial evaluation of your proposals. They are also your primary source of information regarding Air Force requirements, the direction of your project and for feedback.

SBIR Program Phases

The SBIR Program consists of three phases. In general, each subsequent phase requires more advanced research and development and becomes increasingly more challenging, more valuable to the government and/or private industry, and therefore, potentially more lucrative for your firm. Phase I begins the process of substantiating the technical merit and feasibility of your idea. The purposes of Phases II and III are outlined beginning below.

PHASE II - PRINCIPAL R&D

The primary purpose of an SBIR Phase II project is to accomplish research and development necessary to produce a well-defined deliverable product or process. Phase II proposals may only be submitted by Phase I awardees and only at the request of the Air Force. The request may be forthcoming as early as four months into the nine-month Air Force Phase I contract.

Phase II contracts are generally limited to a two-year period and up to \$750,000 of "SBIR" funding with final determination resting with the Air Force. This could provide you with considerable time and capital for the research and development of your innovative idea.

PLEASE NOTE..

To minimize funding and project delays between Phases I and II, Phase II proposals must be submitted no later than six months into the nine-month Phase I contract. The last three months of the nine-month technical effort will not be considered in the evaluation process leading to Phase II awards.

PHASE III - R&D TO PRODUCTION

It is very important to understand the purpose of the SBIR Phase III Program. Remember, the primary objective of Phases I and II is to stimulate small business involvement in the research and development of technology innovation to resolve "defense-related" scientific or engineering problems. On the other hand, the SBIR Phase III Program has two goals. Obviously, one goal is to apply the technology to products which solve the defense-related problem. A second and extremely important goal is to convert the Air Force-supported R&D into commercial products.

Although the SBIR Program cannot provide funds to accomplish Phase III commercialization efforts, it is committed to helping small businesses succeed in developing products from SBIR-supported R&D. Private sector funds may be used to pursue commercial applications of Phases I and II R&D. Federal funds, other than SBIR funds, may be used for products and processes intended for use by the U.S. government.

PLEASE NOTE...



Phase III contracts are not awarded with funds from the SBIR Program. To help in this endeavor, Section 4 of this handbook is included to illuminate the processes necessary for successfully transforming R&D efforts

into commercial products. These processes include the development of business plans and marketing strategies that are necessary to gain contingency commitments for production revenues. Identifying the necessary tasks for transforming technology into products is relatively easy. But accomplishing those tasks will require dedication and persistence on your part.

Summary

The USAF SBIR Program endeavors to extend a helping hand to small businesses and strives to develop a partnership between the private and government sectors that will:

- stimulate and develop technological innovation in the private sector;
- utilize small businesses to meet federal research needs; and
- maximize the value of federal research dollars by improving the industrial base for both the public and private sectors.

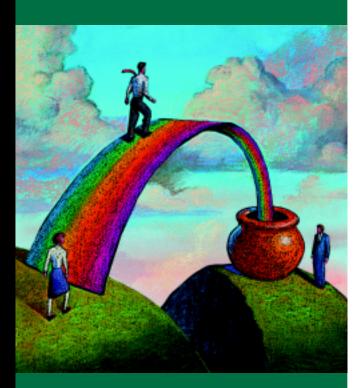
It provides an alternative funding mechanism for the research and development of new and possibly revolutionary technology that, due to technology risk, could not be funded via traditional methods.

The SBIR Program has the capacity to deal with higher risk research sooner than conventional funding routes. It also has the flexibility to address areas of public concern (e.g., the environment) in a more timely manner.

There is also value added to the government by the SBIR Program. Small technical businesses often provide more timely and innovative applications of technology than do larger businesses. Moreover, they can more easily adapt to changing environments and markets. The bureaucracy of big business can often get mired in layers of management, competitive pressures, and large overhead expenses. The SBIR Program is designed to avoid such bureaucratic constraints and to benefit from the entrepreneurial aspects of a small business.

NOTES			

SBIR Phase II Program Proposals



How to create a dynamic proposal that can pay off with a Phase II award.

Contents In Section 2

Eligibility Criteria and Limitations
Evaluation Criteria
Pre-Proposal Research
Proposal Components
Mandatory Elements
Preparing the Proposal Body
Preparing the Cost Proposal
Credibility Enhancers

Additional Guidelines

Eligibility Criteria and Limitations

The eligibility criteria for firms submitting a Phase II proposal are essentially the same as those used for Phase I proposals:

- the firm must qualify as a small business for research and development purposes;
- the primary employment of the principal investigator must be with the small business firm at the time of the award and during the conduct of the proposed effort;
- the research or research and development work must be performed by the small business concern in the U.S.; and
- joint ventures and limited partnerships are permitted, provided the entity created qualifies as a small business.
 Refer to the SBIR Program Solicitation for more detailed and legal definitions of these eligibility criteria.

There are, however, two limitations placed upon Phase II which are different from those in Phase I. First, in Phase I, the winning firm was required to accomplish at least two-thirds of the effort in-house. In Phase II, the winning firm may contract out for up to one-half of the Phase II work.

The second limitation declares that a Phase II proposal may only be submitted by a Phase I awardee and only if the Air Force requests it. Such a request would be issued after sufficient progress had been made in Phase I to prove the feasibility of the concept. Submit Phase II proposals according to directions provided by the Program Manager. Proposals submitted after Phase I contract ends will be evaluated but funding may not be available.

HERE'S A TIP...

The use of consultants and subcontractors should be reserved for project support functions which enhance your firm's capabilities to execute the project. The critical design and development portions of the project should be maintained in-house. It is appropriate to use consultants and subcontractors to support reviews, testing, specific experimental operations and administrative functions such as data collection, etc.

HERE'S A TIP..



You should initiate and maintain communication with your USAF Phase I project monitor and the SBIR Program Manager to keep them aware of your technology potential and/or achievements. This will increase your chances of receiving a request for a Phase II proposal and help the Air Force make an informed decision on which projects to pursue. It is in your best interest to ask questions. Do not simply wait for an Air Force agent to inform you and then react. If it does not seem likely that you will receive such a request from the Air Force, remember that you can still market your Phase II project to other DoD services and agencies. Any DoD Phase I makes you eligible for a Phase II within any area of DoD, e.g. the Army can request a Phase II proposal from an Air Force Phase I contractor. You should seize the responsibility to ensure that you are positioned for whatever happens.

Evaluation Criteria

Phase II proposals will be technically evaluated for overall merit to determine which proposals receive the limited funding available through the SBIR Program. The evaluation of a Phase II proposal, which may include an on-site evaluation of the Phase I effort by the government evaluators, is based on the four criteria listed below. Your proposal should focus on providing information which clearly and concisely identifies your strengths in each of these four areas:

1. SOUNDNESS AND TECHNICAL MERIT

The soundness and technical merit of the proposed approach and its incremental progress toward solving the topic or subtopic are essential. In Phase I, the evaluators looked for innovation and originality in the proposed technology. In Phase II, the evaluators will be interested in the merits of continuing the funding for further research and development of the Phase I effort. Your ability to communicate your approach will be a key factor in their evaluation. The phrase "incremental progress" suggests that the project approach should be divided into subtasks. These subtasks must show the steps that will be accomplished to progress from the beginning to the end of the Phase II project.

2. QUALIFICATIONS

The qualifications of the proposed principal/key investigators, supporting staff, and consultants are critical. Make sure you include both their qualifications

for performing the research and development and for commercializing the results.

Once these criteria have been scored by the technical evaluators, a management review will be conducted and one additional criterion may be applied to the evaluation process — cost. In cases where multiple proposals are submitted to resolve the same problem, and the results of the technical evaluations are essentially equal, the cost to the government will be the final consideration. Also, as with all funding sources, the SBIR funds are limited. In striving to optimally allocate the available funds, management will evaluate the costs of the various proposals against their expected benefits. Therefore, cost is an important factor and care must be taken in developing the cost proposal.

3. POTENTIAL COMMERCIAL APPLICATION

The potential for a resulting commercial application and the expected benefits of this commercialization need to be highlighted. The commercialization can be either for government or private sector application. The value of this criterion has increased from previously used evaluation criteria which suggests the growing importance of commercialization to the SBIR Program. There are four factors that can be used in your proposal to illustrate commercial potential:

- your firm's previous record for commercializing SBIR or other research;
- commitments for Phase II funding from non-SBIR sources, private or government;
- follow-on Phase III funding commitments; and
- other indicators of commercial potential.

The follow-on funding commitment must provide that a specific amount of funds will be made available to or by your firm, and it must indicate the date that the funds will be available. It must also contain specific technical objectives which, if achieved in Phase II, will make the commitment exercisable by your firm. The terms cannot be contingent upon obtaining a patent due to the extensive time normally required for the patent process. Submit the funding commitment with the Phase II proposal.

4. ADEQUACY OF FULFILLING REQUIREMENTS

Obviously, one of the key criteria is the adequacy of the proposed project in fulfilling Air Force requirements. If the proposed solution does not directly address topic requirements and/or fails to offer a unique solution it will be viewed as non-responsive.

Pre-Proposal Research

Research is a key element for all complex endeavors. Developing a winning SBIR Phase II proposal is considered a complex task by most firms. A winning proposal is one that convinces the USAF that the proposing firm clearly understands the USAF problem, has an innovative and feasible approach for solving the problem, and has the manpower and facilities necessary to accomplish the proposed research and development. This section provides useful tips for accomplishing the research required to achieve the first two elements. Remember that the government will request any Phase II proposal early enough to avoid lags in funding between Phases I and II; therefore, you should begin your research and proposal planning immediately.

Periodic and repeated communication between the proposing firm and the key USAF players will be stressed throughout this handbook as a critical research mechanism. This mechanism is your best tool for understanding the customer's (USAF) needs and for fostering the rapport which will help in the joint resolution of any problems or differing approaches.

The following paragraphs will identify those key USAF players who are vital to your proposal research.

TECHNICAL

The foremost player in the technical arena is the Phase I Project Manager. The USAF sometimes calls the Project Manager a contract monitor or a technical point-of-contact. This person is probably the most knowledgeable about the problem which was outlined in the initial SBIR solicitation. You should have easy access to the

Project Manager since he/she is the official technical contract monitor of your Phase I contract.

By enlisting

the support

and teamwork

of key USAF

staff, your

research

efforts are

more likely to

be right on

target.

One very important aspect of the Phase II project is the SBIR funding limit. On large projects, the \$750,000 limit for SBIR funds may not be sufficient to accomplish the prototyping and testing goals of the Phase II Program.

PLEASE NOTE.



Previous Phase II awardees and SBIR Program Managers agree that it is imperative to discuss your ideas with the person who will be evaluating the Phase II proposal. In most cases, the Phase I Project Manager will be that person. If not, he/she would be closely associated with the Phase II evaluator and can provide you with an introduction. During the preparation of the Phase I proposal you were prohibited from communicating with USAF personnel concerning the technical content after the release of the DoD SBIR solicitation. Although there are limitations on the type of help USAF personnel can provide during the Phase II proposal preparation, communication is encouraged and considered imperative to foster a better understanding between the two parties which results in better products.

The USAF Project Manager is often the best research source to assist you in finding additional (non-SBIR) funds, government furnished equipment or facilities to reduce your capital costs, or for alternative program structures which fit within the funding limits. Therefore, maintain rapport and communications with your

Project Manager. Whenever appropriate and possible, meet with the Project Manager in person to discuss your Phase I progress and Phase II ideas and concerns. It will help you to prepare a more thorough analysis of USAF's requirements, express your solution in USAF's terminology, gain a front-end sense of the customer's support of your approach to his or her problem, and work through difficult programmatic issues.

ADMINISTRATIVE

Another USAF player you should periodically contact is the SBIR Program Manager at the AFRL directorate responsible for the SBIR project you are working on. This manager is accountable for the administration of all SBIR projects within the organization. The SBIR Program Manager can provide important answers concerning the overall SBIR purpose and processes, proposal timelines and format, funding issues, points-of-contact, and further research sources. This is also the office which will officially receive your SBIR Phase II Proposal. (You may also be referred to the organization's contracting office.) SBIR Program Managers' office addresses and phone numbers are listed in the AF section of the DoD SBIR Solicitation.

STATE ASSISTANCE PROGRAMS

Some states provide technical help ranging from proposal preparation and evaluation to the use of equipment, laboratories, and facilities. Other states provide bridge grants of varying amounts that can be used to fund your venture while waiting for the Phase II contract to be awarded. Also, some states have matching grant programs. These grants provide funding equal to that provided by the government. In addition, some states provide low interest loan programs for research efforts that, if commercialized, will provide the

if commercialized, will provide the state with a major benefit.

Major benefits include such advantages as increased industry diversification, improved air quality, or decreased unemployment. Still other states and localities serve as insurers or provide loan guarantees to help small high technology firms obtain funding from banks or state and local lending institutions for Phase III efforts. This state or local support often opens the door for manufacturers, investors, and venture capitalists to provide

SBA—keeping the machinery of small business oiled and better able to operate successfully.

funding for projects whose risks have been reduced through government-sponsored R&D. Contact your State Government Office of Economic Development to determine which services are available. See Section 5: References, page 5.8 for a listing of state SBIR Program support.

SMALL BUSINESS ADMINISTRATION (SBA)

The SBA is the primary federal advisor and advocate for small business. The SBA, through its many regional and district offices, provides counseling and training in business development, marketing, start-ups, and loans. They also manage the Procurement Automated Source

PLEASE NOTE.



A recent SBA sponsored program is the Angel Capital Electronic Network or ACE-Net. ACE-Net is a nationwide Internet-based listing service that provides information to angel investors on small, dynamic, growing businesses seeking from \$250,000 to \$5 million in equity financing. Details are provided on the Internet at (http://www.sba.gov). To learn more about ACE-Net contact the SBA Office of Advocacy at (202) 205-7749.

System (PASS) program which brings together government procurement sources and major corporations with small businesses capable of meeting their contract and subcontract requirements.

GENERAL

Universities and colleges which have business management curricula often provide valuable assistance and courses that are specifically targeted at aiding small businesses. This aid can take many forms to include strategic planning and the development of a business plan, funding sources and strategies, market research that identifies applications and customer target bases, government accounting principles, etc. If the university or college has both technical and business schools, their assistance may be even more valuable as a research source. Check with your local educational institutions to see what assistance is available to small businesses.

While accomplishing your research, do not forget that a technology often has a multitude of applications in several areas. Research and early planning of your proposal strategy is critical.

Example: An electronic technology may have application in government avionics, communication, training, and medical systems. Ask the Program Manager and your network of various other government and research sources which R&D programs are high priorities and attempt to address these important concerns.

Select an application or applications which have the best chance of gaining support and furthering your corporate goals. For example, if your firm's Phase I research is directed toward resolving a scientific or engineering problem in the avionics arena, you may learn that potential applications in medical systems have a higher priority in either the USAF or private sectors. If the medical application supports your corporate goals, you should consider writing your firm's Phase II proposal to take advantage of that known medical requirement. If the medical requirement is a substantiated USAF priority with strong support from a USAF Project Manager, develop a Phase II proposal that concentrates on resolving that USAF need. If the medical requirement is instead a private sector need, develop a Phase III contingency funding commitment, for inclusion with your Phase II proposal, to emphasize a follow-on commercial application of the USAF sponsored R&D. For best results keep your Program and Project Managers informed about your strategy.

Proposal Components

The investment by the USAF in a Phase II project is normally considerably larger than it is for a Phase I project. Therefore, in contrast to the Phase I proposal, which was limited to 25 pages, your Phase II proposal will need to be both longer and more comprehensive. It will need to describe the proposed effort in detail, however, it should not exceed 75 pages.

Although these may sound like opposing requirements, the SBIR Program philosophy is to reduce the time and cost expended by small businesses in the preparation of formal proposals. To comply with both of these requirements, the proposal must be well organized, and extraneous information must be eliminated. This section will identify the necessary proposal components and organization. The Additional Guidelines section on page 2.12 will present some writing and presentation suggestions to help eliminate unnecessary wording.

HERE'S A TIP...



Prior to submitting your proposal, get an impartial reader to review it, give an objective opinion as to whether the proposal communicates its purpose, and give recommendations for improvement.

The USAF evaluators will critically review your proposal. Therefore, you must adopt a strategy that will persuade the evaluator that the proposed continuation both represents a likely solution to the problem and is worthy of support. The quality of the

scientific or technical content will be the principle basis upon which the proposal will be evaluated. Refer to the Evaluation Criteria section on page 2.2 in this guide often during the drafting, redrafting, and finalization of your proposal to ensure that you cover all the criteria. Many small firms lose opportunities, not because of technical shortcomings, but because of their inability to communicate their ideas to the evaluators.

Mandatory Elements

Following are the four mandatory elements to be included with a Phase II proposal:

1. COVER SHEET

The Cover Sheet (See DoD Solicitation for example) is a proposal transmittal page that provides general information about your company, the overall cost of the proposal, and the proposed duration. This must be the first page of your proposal. This is an important

form for the government's administration of your proposal. You should exercise care to assure the information is complete and accurate. Also, ensure compliance with the instructions annotated on the back.

2. PROJECT SUMMARY

The Project Summary (See the DoD Solicitation for example) is similar to an executive summary and must be the second page of your proposal.

PLEASE NOTE.



The Project Summary is probably the most important single page in your entire proposal. It contains the very important Technical Abstract which must be well-written and a powerful persuader. Since the abstract will be read first by both the technical and managerial evaluators, it will establish their first impression of your proposal. A poorly written abstract can negatively influence further review of your proposal. A well-written abstract will tend to instill a positive attitude as the evaluators review the remainder of the proposal.

The Project Summary also provides an area to highlight the anticipated benefits of the proposed effort to the USAF and the commercial marketplace. In this section, it is very important to be concise and specific about who will benefit and why they will benefit. Again, ensure that you comply with the instructions on the front and back of the Project Summary.

Remember: The Project Summary of successful proposals will be published and will have unlimited distribution. Therefore, do not include proprietary or classified information on the Project Summary sheet.

3. COMPANY COMMERCIALIZATION REPORT

All proposals must contain a Company Commercialization Report. The Company Commercialization Report lists all previous SBIR Phase I and Phase II contracts your firm has been awarded. It must list the name of the awarding

agency, date of award, contract number, topic or subtopic, title, and award amount for each Phase I and Phase II project. It will also contain a commercialization status for each Phase II project.

HERE'S A TIP..



Explain any Phase II projects that did not move into Phase III to avoid appearances of failing to try to commercialize a Phase II project.

Place the Company Commercialization Report at the back of the proposal. (The page count of the Company Commercialization Report is not included in the proposal's 75-page limit.)

4. PROPOSAL BODY

The body of the proposal is the final mandatory element. It will begin on page 3 of the proposal. This part of the proposal will be the most substantive and must be persuasive. There are three concepts you must clearly communicate in this section:

- what objectives the proposed project intends to accomplish;
- how and with whom you intend to achieve them; and
- the cost, schedule, and benefits of executing the venture.

There are 10 elements in the body that help you organize the proposal. First review these elements to determine which are most important in your particular quest to persuade the USAF to

further support your endeavor. This will help you baseline the elements which require the majority of the remaining 73 pages and manage the development of the proposal. You should provide these elements in the order they are listed to help evaluators quickly find information of interest to their specialty. The 10 elements of the proposal body will be covered in the next section.

Preparing the Proposal Body

1. IDENTIFICATION AND SIGNIFICANCE OF THE PROBLEM OR OPPORTUNITY

This section allows you to convince the evaluators that you have a good understanding of the problem you are

HERE'S A TID

For best results during the evaluation process, provide work elements in the order that they are listed and title each element using

the same words used

instructions for each.

in the solicitation

should briefly describe the technical problem or opportunity you are addressing in Phase I. Then, clearly and concisely identify the relationship between the technical feasibility being demonstrated in Phase I and the proposed continuation in Phase II.

attempting to solve. You

Make sure

you have all

the neccessary

elements that

go into

a winning

Phase II

proposal.

2. PHASE II TECHNICAL OBJECTIVES

This is the section where you tell the evaluators what your proposed project intends to accomplish. Discuss the specific objectives of the Phase II task. Also, incorporate

any results from Phase I which clearly relate to the feasibility of the objectives. Always keep in mind the overall purpose of a Phase II project: additional research and development to increase the level of maturity of your Phase I technology innovation. Therefore, the bulk of your technical objectives should relate to the maturity level you intend to achieve.

HERE'S A TIP...

Each objective should be accompanied by an assessment of its potential for success. The purpose of this assessment is to add credibility by illustrating that a conscious thought process was applied to the development of the objectives.

Objectives should be measurable as often as is practical. Measures can be stated as a minimally acceptable value or a range of parameters.

A secondary aim of Phase II projects may be to reduce risk in the application of a promising technology. Evidence of risk reduction usually requires some type

secondary aim of Phase II is to demonstrate the potential for a commercial product. Consequently, some of your objectives should address the characteristics you intend

of demonstration. Another

HERE'S A TIP...

Do not include market analysis or marketing study tasks in a Phase II proposal.

to demonstrate which indicate commercial value. The commercial objectives most often relate to resolving those technical issues that were the basis for any Phase III funding contingencies.

3. PHASE II WORK PLAN

This is the section where you describe how, when, and where you intend to achieve the stated objectives. It requires an explicit, detailed description of your Phase II approach. The purpose of the work plan is to demonstrate to the USAF evaluators that you have a thoughtful and methodical approach to accomplishing the Phase II objectives. Large projects usually require division into smaller tasks (subtasks) for ease of both management and execution. Subtasks may include the development, prototyping, and testing of various elements of the overall project. This

HERE'S A TIP.



The timing and interrelationship portions are usually shown most easily and efficiently by the use of graphics. The USAF evaluators are already familiar with programmatic graphics called milestone charts. You may consider using something similar to reduce confusion and lengthy explanations. A milestone chart is a simple, two-dimensional graphic in which major subtasks are listed down the vertical axis, the period of the contract is divided along the horizontal axis, and the start and finish of each major subtask is graphed in the corresponding space between the two axes. If you are unfamiliar with milestone charts, your Phase I Project Manager can quickly illustrate an example.

section should clearly describe the efforts involved in the subtasks, their timing, and their interrelationships.

The methods for achieving each objective or task should be described in explicit detail. The work plan should be the major portion of the total proposal. It must clearly indicate a research and development advancement which is appropriate for Phase II. Continuing to research the feasibility of your Phase I concept is not an appropriate Phase II project. If the results of Phase I do not indicate the feasibility of a proposed concept or innovation, the government will not request that further research be pursued in Phase II.

4. RELATED WORK

Describe any significant activities which directly relate to the proposed effort and were conducted by individuals or firms included in this proposal. The purpose of this section is to identify relevant experience that will help to gain the evaluator's confidence.

5. POTENTIAL APPLICATIONS

Use this section to identify any plans for Phase III. First, describe the results you anticipate from the proposed Phase II project. Then describe why the anticipated results appear to have potential commercial application, and/or why the proposed results appear to have potential use by the government. Finally, relate the significance the anticipated results have on the initiation of the Phase III endeavor. If you have prepared a contingency funding agreement for the development of a commercial product in Phase III, this is an excellent place to identify it. Outline the terms of the agreement and specifically indicate when

funds will be made available and which contingencies might affect the availability of funds.

6. KEY PERSONNEL

List the individuals within your firm, consultants, and subcontractors who are expected to be instrumental in supporting the proposed effort. Include any education and experience that is relevant to that support. This section must also contain the principal investigator's résumé including a listing of any publications.

7. FACILITIES AND EQUIPMENT

Describe the instrumentation and physical facilities that are necessary to complete the proposed work. Identify which are already available and thoroughly justify any proposed purchases or leases. This is also a good area to identify any intended use of government-furnished equipment and facilities.

8. CONSULTANTS AND SUBCONTRACT SUPPORT

Phase II policy allows up to 50% of the total contract effort to be used for consultant fees, facility leases or usage fees, and other subcontracts or purchase agreements. This 50% limitation can only be exceeded with written approval of the government contracting officer. If your proposal includes such support, describe in detail the tasks and responsibilities of the involved consultants or subcontractors. Justification for additional facility leases and user fees should have



If you intend to use governmentfurnished equipment or facilities, you must have first discussed the availability of the needed items with the responsible government agent. **Tentative agreements** for use of equipment should be negotiated and any human use protocols should be in place or negotiated should your Phase II proposal be accepted.

been accomplished in the facilities and equipment section on the previous page of your proposal.

9. PENDING SUPPORT

In addition to the information required in the Company Commercialization Report which concerns your firm's previous Phase I and Phase II projects, you are required to identify the possibility of additional government support for this proposed Phase II project. If a proposal that is substantially the same as the one currently being

submitted, is either pending with, or about to be submitted to another federal agency, or another DoD component, or to the USAF in a separate action, the proposer must provide the following information:

- the name and address of each agency or DoD component to which the proposal has been, or will be, submitted;
- date of proposal submission;
- title of the proposal; and
- name and title of the principal investigator.

10. COST PROPOSAL

The components of the cost proposal will be covered in the next section.

Preparing the Cost Proposal

The cost proposal must depict how your firm will distribute the various direct costs (labor, material, travel, etc.) and allocate the indirect costs (overhead, general

HERE'S A TIP...

Contact the Defense Contract Audit Agency (DCAA) soon after receiving your Phase I contract. Have them review your cost accounting system and determine its adequacy for the award of a cost reimbursable contract. This will save valuable time when competing for a Phase II award. **Further discussion** on DCAA is found on page 3.4 and in the **Section 5: References** of this guide.

and administrative, etc.). It must also identify the profits or fees. The Phase II cost proposal will be much more detailed than the abbreviated cost proposal that you submitted for Phase I.

In a Phase II cost proposal you are required to use a cost breakdown structure for ease of traceability. It must show the total cost and break down the cost into all of the six cost elements which apply to the proposal. The mandatory cost elements are described beginning

on page 2.9. Each applicable cost element will then be divided into its components and supported with data that shows how the component costs were derived. Since the cost proposal can be subject to audit by the DCAA, traceability and accuracy are essential.

The cost proposal requires the use of a Standard Form 1411, Contract Pricing Proposal Cover Sheet. The Standard Form 1411 is a government form that can be obtained through your local SBIR Program Manager or Contracting Officer. Detailed instructions for developing a cost proposal are contained in the Federal Acquisition Regulation (FAR) 15.804-6, Table 15-2. Also, an example of a completed Standard Form 1411 and the supporting data can be found in the Department of Defense, Defense Contract Audit Agency Pamphlet (DCAAP) 7641.90. (To order see Federal Contracting Publications/Guidelines, page 5.3).

After completing the Standard Form 1411, you will submit a line item summary. A typical format for the line item summary follows:

Cost Elements	Proposed Contract (Total Cost)	Estimate Reference	
Direct Labor	\$XX,XXX	Schedule 1	
Indirect Costs	\$XX,XXX	Schedule 2	
Materials	\$XX,XXX	Schedule 3	
Royalties	\$XX,XXX	Schedule 4	
Facilities Capital Cost of Money	\$XX,XXX	Schedule 5	
Other Costs	\$XX,XXX	Schedule 6	
Total Proposed Price	\$XXX,XXX		

Your cost proposal must include all of the six cost elements which apply to your proposal. The schedules are attachments to the line item summary. They are used for breaking the cost elements down into their components and identifying the individual component costs. The

schedules also include a description of the basis used in deriving the cost of each component, such as price quotes, catalogues, etc.

The specific schedule numbers used in the example format above are for illustration only. You may rearrange the order of the cost elements or their corresponding schedule numbers. The following is a brief explanation of each of the cost elements.

PLEASE NOTE...



Providing the basis and data to support the calculations you used in deriving the various costs are important to you and the evaluators. The supporting data will help reduce the pre-negotiation "fact-finding" period required by the Government **Contracting Officer.** The fact-finding period is the time between deciding to award you a contract and contract negotiations.

1. DIRECT LABOR

Provide the total cost of direct labor. Either on the line item summary or the associated schedule, you will break down the direct labor into its functional components (i.e., Engineering Labor, Manufacturing Labor, etc.). Then on the associated schedule, provide a table showing the appropriate labor categories, their hourly rates, hours, and costs. Include a description of the basis you used for the quantities and mix of proposed labor categories. Explain how the proposed hours match the Statement of Work, or develop a small work breakdown structure. Provide the basis for the direct hourly rates (salaries). Include current actuals and any escalation factors you used.

2. INDIRECT COSTS

The allocation and application of indirect costs can vary greatly between firms. Therefore, you must pay particular attention to clarifying your specific methods. Generally, major categories such as Labor Overhead, Material Handling Overhead, General and Administrative categories are listed individually in their appropriate positions on the

The cost proposal is critical, so getting it right the first time can speed up your award.

line item summary. On the referenced schedules, you will list the various components of the categories along with their individual expenses, or otherwise explain the rates used for determining the category cost. Show trends and budgetary data to provide a basis for determining the reasonableness of proposed rates. Identify whether the indirect rates are DCAA approved or recommended. Also explain whether they are consistent with current or recent actuals. If they are not, justify the difference.

3. MATERIALS

Provide a consolidated summary of the individual material quantities included in the proposed effort. Include the price and supporting information that establishes the basis for pricing (i.e., vendor quotes, invoice prices, etc.). Also include raw materials, parts, components, assemblies, and services to be produced or performed by others. Identify all proposed items and show their price, quantity, and source.

Competitive Methods

For acquisitions over \$100,000 which are priced on a competitive basis, you must also provide data showing the degree of competition and the basis you will use

for establishing the source and the reasonableness of price. Acquisitions include subcontracts, purchase orders, material orders, etc. For inter-organizational transfers that are priced at other than the cost of comparable competitive commercial work done by your division, subsidiary, or affiliate, you must explain the pricing method.

Established Catalog or Market Prices/Prices Set by Law or Regulation

When you claim an exemption from the requirement to submit cost or pricing data, whether the item is produced by others or by you, provide justification for the exemption as required by FAR 15.803-3(e).

Noncompetitive Methods

For acquisitions over \$100,000 which are priced on a noncompetitive basis, you must also provide data showing the basis for establishing the source and the reasonableness of the price. For standard commercial items which are fabricated by you that are generally stocked in inventory, provide a separate breakdown of cost by elements. In the odd chance that a subcontract or purchase order is either \$1,000,000 or more, or both more than \$100,000 and more than 10% of your proposed price, FAR 15.806-2(a) requires you to provide a copy of the cost or pricing data submitted by the prospective source.

4. ROYALTIES

If more than \$250, provide the following information on a separate page for each separate royalty or license fee:

- name and address of licensor;
- date of license agreement;
- patent numbers, patent application serial number, or other basis on which the royalty is payable;
- brief description including any part or model number of each contract item or component on which the royalty is payable;
- percentage or dollar rate of royalty per unit;
- unit price of contract item;
- number of units; and
- total dollar amount of royalties.

5. FACILITIES CAPITAL COST OF MONEY

If you elect to claim facilities capital cost of money, you must submit Form CASB-CMF and show the calculation of the proposed amount (see FAR 31.205-10).

6. OTHER DIRECT COSTS

List all other direct costs not otherwise included in the cost categories described previously. Examples include travel, computer and consultant services, equipment rental, and special tooling. Again, you must provide the basis for pricing each of the costs. For example, when listing proposed travel, include the following information in a similar format.

Purpose of trip	
Destination	Airfare \$
# of People	Lodging \$
# of Days	Meals \$
Car Rental \$	

The proposed *per diem* expenses must be in accordance with government Joint Travel Regulation rates. *Per diem* rates pertain to lodging and meals. Airfare and car rental rates do not fall under the government travel

PLEASE NOTE



When the price of a contract is to be negotiated on the basis of cost or pricing data, and the proposed price exceeds \$500,000, you are required to certify that the data in support of your proposal are accurate, complete, and current.

regulation but must stand the test of reasonableness under FAR 31.205-46.

The allowability of costs to be reimbursed by the government is governed by the Federal Acquisition Regulation (FAR), Part 31, "Contract Cost Principles and Procedures." Because the FAR is the governing document for nearly all contracting issues, it is imperative that you have

access to it. You may purchase a copy from the U.S. Government Printing Office (see Section 5: References). Otherwise, there is probably a copy available for public use at a nearby Department of Defense Base/Post or Federal Library (ask your SBIR Program Manager or Contracting Officer). There are a number of costs that are expressly unallowable by the FAR, and several costs that tend to cause problems. Several are listed in the following column with a FAR reference for your information.

GENERALLY UNALLOWABLE COSTS

(Item – FAR Reference)

- Public Relations and Advertising Costs 31.205-1
- Contribution and Donation 31.205-8
- Entertainment Costs 31.205-14
- Interest 31.205-20
- Legislative Lobbying Costs 31.205-22
- Losses on Other Contracts 31.205-23
- Organization Costs 31.205-27
- Goodwill 31.205-49
- Executive Lobbying Costs 31.205-50
- Alcoholic Beverages 31.205-51

EXPRESSLY UNALLOWABLE COSTS

(Item - FAR Reference)

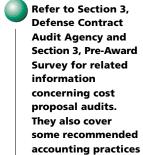
- Bad Debts 31.205-3
- Fines and Penalties 31.205-15

COMMON COST PROBLEM AREAS

(Item – FAR Reference)

- Compensation for Personal Services 31.205-6
- Independent Research and Development and Bidding and Proposal Costs (IR&D/B&P) 31,205-18
- Patent Costs 31.205-30
- Precontract Costs 31.205-32
- Rental Costs 31.205-36
- Selling Costs 31.205-38
- Taxes 31.205-41
- Travel Costs 31.205-46

HERE'S A TIP...



for government

contracts.

Credibility Enhancers

The primary purpose of the written proposal is to convince the evaluators, both technical and managerial, that they should select and fund your continued research and development. The keys to enhancing the credibility of your proposal lie in your ability to clearly and concisely show that your approach to solving the problem or taking advantage of the opportunity is realistic and that it is executable. To be both clear and concise is a challenging requirement. It requires time and effort in terms of continually refocusing on key issues and refining the presentation.

HERE'S A TIP...



If you start your process by developing and answering questions like "what specific knowledge and strengths do we possess that best portray our goals and expertise," it will help organize and focus the writing effort. Below are a few elements which can help enhance the credibility of your proposal.

REALISTIC

Demonstrate a good understanding of the problem or opportunity. This will help you develop a picture which shows that you know what you are trying to accomplish. When demonstrating your understanding, provide a brief discussion of your Phase I effort. Identify its primary goals and specify what you have accomplished to show the feasibility of your Phase II proposal. You might also

describe whom the proposed accomplishments could affect and in what ways.

Specify your major Phase II goals. Use measurable terms when describing goals that enhance existing capabilities. An example might be "to increase the power output by 20% while maintaining or reducing the existing size and weight of the packaging." Describe capabilities when identifying goals for products or technologies that do not yet exist. For instance, "this cerebral probe is expected to permit students to learn complex subjects while sleeping." In either case, identify and quantify any expected performance, product cost, or logistics goals.

Clearly indicate why your innovative approach is the best avenue toward reaching the goals. The evaluators have a difficult task in deciding which proposal to accept. Consider it your job to help them make the decision in your favor. Emphasize the strengths of your firm. Specifically point out the advantages in your approach. Show that you understand the state-of-theart and demonstrate a comprehension of prior research and development. Cite discriminators that differentiate your proposal from other efforts. Describe why your approach is more exciting and feasible rather than to degrade other approaches. You can occasionally identify the shortcomings of other approaches, but do not concentrate on the negative aspects of other methods. The idea is to concentrate on developing a positive image of your proposal.

EXECUTABLE

Expertise is a very important credibility factor for demonstrating executability.

HERE'S A TIP...



The principal investigator's R&D experience and technical expertise are the most important factors. Tell the evaluators who the team members are that will provide the management and technical expertise. This will help you illustrate the experience and knowledge you can draw upon to accomplish your goals. Do not simply provide a list of names. Describe the credentials that confirm their expertise. Identify their previous positions and projects they have accomplished which are closely related to the proposed task. Concentrate on portraying the relevant successes from those projects.

Remember: The primary competence must be inhouse. However, you can use consultants and subcontractors to enhance your expertise and experience.

Financial commitments from other sources that support the same effort are excellent references and you should highlight them. They suggest that others have already investigated your idea and believe in your capability to deliver. This is especially true when it concerns contingency commitments for the follow-on Phase III effort.

that appear excessive.

Your budget will also
be scrutinized by the
evaluators and/or the contract negotiators. It's easy to
understand that they will be concerned with budgets

They will be equally concerned with whether the budget is sufficient to attain the stated goals. An insufficient budget will cause major problems in the later stages of

PLEASE NOTE...



Listing irrelevant projects and minor successes will consume space that could be better used for more important proposal elements. Finally, ensure that your listed expertise covers the complete proposal, and include any qualifications for commercializing the results. **Check your expertise** listing against the major tasks in your program plan. Each task must associate with at least one personal expert to show executability of the tasks and, therefore, the whole program.

the contract. It will cause either a reduced product or painful renegotiations. Neither are in the best interest of the parties involved. Refer to page 2.8, Preparing the Cost Proposal and page 3.4, Defense Contract Audit Agency to ensure that you have completely covered all cost elements.

Program plans are universal management tools. To management evaluators, they are very important indicators concerning the executability of the proposal. The program plan will verify the amount of forethought that went into the development of the program. It also indicates the manageability of the program. Challenging programs are typically broken down into several separate tasks. This enables management to better control the status and flow of the program as it evolves. Your challenge is to outline and describe the various tasks and show how they interact to achieve the proposed goals.

Additional Guidelines

WRITING TIPS

There are four steps that you should follow to both reduce the time expended and improve the quality of your written proposal.

■ STEP 1: OUTLINE

Start by developing a good outline. Developing an outline makes you question yourself concerning the organization and key points of the proposal.

The outline starts at a high programmatic level, without many details, to ensure a clear overall picture is presented. As key points are discovered, simply list them in the appropriate portion of the outline. Once you are sure that all of the important elements of the proposal are covered, you can increase the detail of your outline by writing the first sentence of each paragraph. You now have a baseline from which to manage the development of the first draft. Use this baseline as a configuration control mechanism to keep the proposal development from getting too far off track when the amount of technical details combined with time pressures become overwhelming.

Since the outline identifies the key attributes of your proposal, it can be used to allocate a preliminary number of pages to each section. This helps the section writers by giving them an up-front target and helps you maintain the overall 75-page limit with a concentration on the most important areas.

■ STEP 2: PRELIMINARY DRAFT

The next step is to fill in the words in the form of a preliminary draft. Emphasize the need for graphics, page counts, and the need to maintain good grammar and spelling from the beginning. Presentation tips will be furnished later in this section. They will describe the need for graphics in your proposal to reduce space while clarifying detailed concepts. Most people provide too much detail when describing functions that they feel are important for the reader to understand. Appropriate page limits must be levied on the sections to ensure that the level of detail presented correlates to the significance of the function being described. Checks on grammar and spelling are too often delayed until the last step of the final document.

The last few days of document finalization are the most hectic and rushed. Priority is placed on making sure that important points are adequately covered. In the rush to complete the proposal, the spelling and grammar checks do not get accomplished. This leaves the proposal with an unprofessional appearance that reflects poorly on your credibility.

■ <u>STEP 3: INDEPENDENT REVIEW</u>

It is crucial that an independent team review the preliminary draft and provide constructive feedback. This team should not consist of members of the proposal writing team. Egos and pride of authorship by the writers get in the way of a productive review and cause hostilities among team members. The purpose of the review team is to check for clarity and impact. Their feedback should consist of identifying areas that are not easily understood, arguments that are not logical or persuasive, and their overall impression of how the pieces fit together.

■ STEP 4: FINAL PREPARATION

Use the feedback from the independent review team to guide the preparation of the final document. Rewrite and reorganize, where necessary, to improve the clarity, impact, and professional appearance of the proposal.

Conduct your own review to ensure all required elements have been covered and are complete. Finally, review the cost proposal to ensure that it is sufficient to accomplish the proposed tasks and provide an acceptable profit for your efforts. Remember that it must also be competitive.

PRESENTATION TIPS

There are three distinct sections to a proposal: the technical abstract, the body, and a conclusive statement. The importance of the technical abstract cannot be overemphasized. It is the portion of the proposal that will be read by everyone involved with the evaluation. It will be read first and will provide that very meaningful first impression. Use the 200-word abstract to highlight the most persuasive reasons for funding your proposal. State

When

preparing

your

presentation,

be sure to

maximize the

effectiveness

of your

proposal by "raising the

bar" in terms

of concise

and relevant

content.

the problem, what you intend to do and how you intend to do it.
Use the body of the proposal to fill in all the necessary details.
Then close with a very brief, one or two-paragraph conclusion

paragraph conclusion that restates what you intend to do and tells why you are uniquely qualified for the project.

After reading all the technical details in the body, the top level reasons for supporting the project may be a little fuzzy. The conclusion is a wrap-up

statement that brings the evaluator's attention back to the primary points that you want them to remember.

Organize the proposal to correspond with the order of proposal elements outlined in Section 2: Proposal Components, page 2.5. The evaluators will be expecting certain information in certain areas. Try not to make them search throughout the proposal to find the information they need to know. The key to formatting a proposal is readability. Make topics easy to find and understand. Use section and subsection headings to differentiate areas of the discussion and to guide the reader through the document. Do not let your paragraphs ramble on. Long paragraphs make the topic look more complex and overwhelming.

Organize the text to maximize the persuasiveness of your arguments. One method is to present your strongest argument first; your weaker arguments follow; then add another strong argument just prior to the conclusion. The first and last arguments provide confidence that overcomes any concerns raised by the weaker arguments in the middle. A second method is to state your case first, and then prove it. Do not make the readers muddle halfway through the paragraph or page before they figure out where your logic is heading.

For instance, to explain the reasoning for including a task that is optional or has optional methods, start by saying that you will do it. Then tell how you will do it, followed by a discussion of the options and why you chose this option. This method is easy to follow and understand. On the other hand, if you start by discussing the options, the readers will be confused and

distracted until you finally say what it is that you plan to accomplish.

Use art and graphics to simplify complicated information. Lengthy and cumbersome explanations can often be simplified by the use of activity charts or flow charts. Graphics can quickly show functional interactions and timing that would take paragraphs or pages to describe. Therefore, use charts anytime you explain functional breakdowns of the program, staff activities, schedules, and task flows.

Employ tables to show multiple data and how target variables react to changes in their environment. Utilize artwork to depict operational concepts and use pictures where a dimension or relative position of an object is important. However, do not overdo the art and graphics. Only depict the most important information and refrain from trying to show everything. To simplify information, the art or graphics must invite the reader to study the presented information. If they are too detailed or lengthy, they will cause the opposite effect.

Phase III Commitments

One purpose of the Small Business Innovation Research Program Reauthorization Act of 1992 (Public Law 102-564) was "to emphasize the program's goal of increasing private sector commercialization of technology developed through federal research and development." As a result of this legislative emphasis, the potential for a resulting commercial application has become one of only four criteria used to evaluate Phase II SBIR proposals (see Section 2: Evaluation Criteria, page 2.2). There are four indicators that the evaluators can use to determine the potential for a resulting commercial application:

- your record of successfully commercializing SBIR or other research;
- the existence of Phase II funding commitments from private sector or non-SBIR funding sources;
- the existence of Phase III follow-on commitments for the subject of the research; and
- the presence of other indicators of the commercial potential of the idea.

A Phase III commitment from either a private source or a non-SBIR government source may be your strongest indicator. If you have evidence of any or all of the other three potential commercial indicators, use it to build as strong a case as possible. This evidence (usually letters) is not part of the total page count. If you do not already have a strong case, developing a Phase III commitment will greatly increase your competitiveness for winning a Phase II contract. Look over Section 4: Commercialization, page 3.1 where methods have been identified to help you gain private sector support and contingency commitments.

NOTES	

Contracting With The U.S. Air Force



An easy-to-follow blueprint for managing the SBIR contractual process.

Contents In Section 3

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Defense Contract Audit Agency

Pre-Award Survey

Reporting Requirements

Government Furnished Equipment and Facilities

Intellectual Property Rights

Types of Contracts

The U.S. government can utilize many types of contracts. The type of contract adopted usually depends upon the degree of risk involved in the effort and/or the degree to which the level of effort can be determined. Phase II awards, unlike Phase I which are usually firm-fixed-price (FFP), are most often cost-plus-fixed-fee (CPFF) type contracts. The type of contract decision is left to the awarding agency. The definitions of these two types of contracts are shown below (as in Chapter 6 of DCAAP 7641.90, February 1993).

FIRM-FIXED-PRICE CONTRACTS (FAR 16.202-1)

- the firm-fixed-price contract provides for a price which cannot be adjusted because of the cost experience of the contractor in performing the contract; and
- firm-fixed-price contracts are applicable to procurements where definite design and performance specifications are available, and where fair and reasonable prices can be established at the outset.

COST-PLUS-FIXED-FEE CONTRACTS (FAR 16.306)

- the cost-plus-fixed-fee contract is a cost-reimbursement contract that provides for a payment of allowable costs plus a fixed fee; and
- this form of contract normally requires the contractor to complete and deliver the specified end product (e.g., a final report of research accomplishing the goal or target) within the estimated cost, if possible, as a condition for payment of the entire fixed-fee. However, in the event the work cannot be completed within the estimated cost, the government may require more effort without an increase in fee, provided the government increases the estimated amount to cover the increase in estimated cost.

If you have further questions concerning contract types, refer to the sections in the Federal Acquisition Regulation (FAR) as specified next to the contract types above. You may also contact your government contracting officer.

Negotiations

After winning a Phase II award, you will be required to negotiate a contract with the government's contracting officer.

The actual person that you will negotiate with will be a Procuring (or Procurement) Contracting Officer (PCO) or an Administrative Contracting Officer (ACO). The purpose of the negotiation is to establish an agreed-upon contract price and the terms of the contract. Depending on the significance and complexity of the procurement, the negotiation meeting may be face-to-face, by telephone, or even by mail. Expect greater scrutiny by the PCO. The PCO will expect a greater level of sophistication on the company's part as a government contractor than they did in Phase I.

The FAR governs the contracting process. The FAR states that the Contracting Officer's objective is to negotiate a contract of a type and with a price providing for the greatest incentive for efficient and economical performance – FAR 15.803(d). It also states that negotiations aimed merely at reducing prices by reducing profit,

PLEASE NOTE...



DCAA does not generally audit firmfixed-price contracts. The Contracting Officer and his/her evaluation team will have analyzed and studied your proposal and may have found errors or inconsistencies therein. Therefore, you should be prepared to explain any suspected or known inconsistencies and to answer any other difficult questions that may arise.

without proper recognition of the function of profit, are not in the government's best interest - FAR 15.901(c). If the SBIR Program is to succeed, the small businesses that it contracts with must also be successful. Therefore, the Contracting Officer's aim is to negotiate price and terms that are reasonably beneficial to both the USAF and the contractor.

Negotiations involve the formulation of offers and counteroffers that often require very detailed

knowledge of your proposal. Use the time between the submission of your proposal and the notification of award to prepare for the negotiation session. The DCAA auditor's report and auditor's attendance may be provided to assist the Contracting Officer during negotiations (see Defense Contract Audit Agency on page 3.4).

The Contracting Officer will have an established strategy and objective prior to the negotiations. He/she will have a starting position and a target goal for the price and contract terms. You should start the negotiations on an equal footing by knowing what offers you can and

cannot accept. Predetermine your minimum acceptable price and a higher but negotiable starting price. Your minimum acceptable price should include a fair and reasonable profit. The negotiable terms of the contract will be primarily determined



Review relevant sections of the FAR and Defense Federal Acquisition Regulation (DFAR) prior to negotiations in order to competently discuss items with the PCO.

by what you are proposing to do and the type of contract (see Types of Contracts on page 3.1) Therefore, you should understand the types of contracts and know the costing factors you used to determine any negotiable elements within your proposal. This is especially true concerning hours and rates.

HOURS

The technical evaluator of your proposal will recommend a labor mix and number of hours to the Contracting Officer. They will be based on the evaluator's opinion of what is required to accomplish the statement of work. When this recommendation differs from that proposed, some give and take will be anticipated. Be prepared to justify, with supporting documentation, the number of hours and labor mix that you deem necessary.

RATES

Overhead, labor, general and administration (G&A), and other rates should have their basis in actual incurred or documented historical costs. Where this is not possible, industry norms can be used. In either case, you should be prepared to support your proposed rates. The contracting officer may receive recommended rates from DCAA.

The negotiation process starts with a period of questions and answers to provide an information exchange. Here, each party is involved in fact-finding. Each tries to draw out information from the other by testing assumptions and asking open-ended questions requiring elaborate explanations. The purpose of the question and answer period is to establish what is to be done and how it is to be done. The bargaining stage follows. Hours, rates, and finances can be negotiated in the bargaining stage.

Negotiations should always be viewed as a win/win situation. The objective is a fair and reasonable price for both the contractor and the government. There are common negotiation practices that will help you achieve win/win compromises and maintain a cooperative atmosphere:

- discuss both sides of an argument. Show how you recognize the validity of the government's position;
- present positive arguments last people remember the last thing said better than what was said in the beginning or the middle;
- restate conclusions clearly and concisely to minimize misinterpretations;
- stress similarities in positions instead of differences; and
- make points several times in different ways; the more someone hears something, the more likely he/she is to be convinced.

PLEASE NOTE...



The Truth in Negotiations Act (TINA), 10 U.S.C. 2306a, gives the government the right to adjust the contract price when the price was based on inaccurate, incomplete, or non-current cost or pricing data. The purpose of the Act is to put the government on equal footing with contractors when negotiating noncompetitive or sole-source contracts. Therefore, if you have obtained more accurate, complete or current cost data since you submitted your cost proposal, you are required to provide the revised data to the contracting officer prior to concluding negotiations of the contract. Complying with this requirement may save you embarrassment, unexpected reductions in income, and hours of renegotiations. Also, for most non-government contracts, it is customary for all work to be completed in a satisfactory manner prior to invoicing the customer. With government contracts, the work may take several months or even years before the service is concluded. Therefore, the government sometimes uses firm-fixed-price contract financing methods (called progress payments) to help fund your firm as you incur costs.

Progress payments which may apply to firm-fixedprice contracts and schedules are agreed to during the negotiations. Bi-monthly invoicing is permitted on cost type contracts. Normally, progress payments are based on a schedule of milestones, or percentage of work completed, up to a negotiated percentage. The negotiated percentage can reach 90% for small businesses and 95% for small disadvantaged businesses. Once this percentage is reached, there will be no more payments until all work is complete. Final payment is made upon completion of all work stipulated under the contract and final acceptance by the government.

PAYMENT

Payments will be made to DoD SBIR contractors by the Defense Finance and Accounting Service (DFAS). To expedite the payment process follow these procedures:

- 1. Submit payment vouchers by fax to the Air Force organization sponsoring your project (or, depending on the terms of the contract, to the appropriate Defense Contract Management Command (DCMC) office). You should identify on the voucher that it is an "SBIR" invoice and list your own fax number on the voucher. You should also send a hard copy of the voucher by mail with an annotation referencing the voucher or corrected voucher that was previously submitted by fax.
- 2. The sponsoring DoD organization (or DCMC office), after obtaining the appropriate signatures on a faxed voucher, may then send it, <u>by fax</u>, to DFAS, with the hard copy to follow. It is the DFAS policy to process the faxed voucher first.
- 3. If DFAS discovers one or more errors in your voucher, it will note the errors on the voucher and fax it back to you for revision/completion. It is the DFAS policy to do this as soon as the errors are discovered. You may then revise the voucher and fax it back to DFAS for continued processing. You should always contact DFAS to verify receipt of the fax.

If you have questions or difficulty in obtaining payment, please call DFAS customer service at 1-800-756-4571.

PLEASE NOTE.



Mandatory Central Contractor Registration

New requirements make it mandatory for all DoD contractors to register in the Central Contractor Registration (CCR). For all Federal Government Request for Proposals (RFPs)/ Solicitations contractors MUST be registered or a contract cannot be awarded. DFAS will not make payment to any unregistered companies. To register in the CCR, access the CCR World Wide Web Homepage at: www.acq.osd.mil/ec

Defense Contract Audit Agency

Prior to negotiations, the contracting officer may want to verify the adequacy of your financial capability and your accounting system to perform the tasks you have proposed. The organization within DoD that is tasked with verifying these factors is the Defense Contract Audit Agency (DCAA). DCAA was established as a separate agency of the Department of Defense in 1965 under the direction, authority, and control of the Department of Defense Comptroller. DCAA is organized into regions which are further subdivided into resident and branch offices. Resident offices are established at major defense contractors, and branches are established in major metropolitan areas to audit other contractors on a mobile basis. Most new contractors will be dealing with a branch office.

The Defense Contract Audit Agency publishes a Guide to New Contractors (DCAA Pamphlet No. 7641.90

PLEASE NOTE...

Although this handbook contains much of the information provided in the DCAA pamphlet, you should maintain a current version of the pamphlet to benefit from all of the information it furnishes.

- see Section5: References). This pamphlet is designed to assist new defense contractors in understanding applicable requirements. Among the areas discussed in this pamphlet are pre-award surveys, price proposals, contract financing methods, incurred cost proposals, and contract types. Failure to know the

information contained in DCAA Pamphlet No. 7641.90 could seriously impact your firm's capacity to do business with the USAF. Conversely, those firms that are intimately familiar with the "rules of the game" stand a much greater chance of being awarded SBIR contracts.

In general, the DCAA is interested in the following:

- identifying and evaluating activities which either contribute to, or have an impact upon, proposed or incurred costs of government contracts;
- evaluating contractors' financial policies, procedures, and internal controls; and
- performing audits which identify opportunities for contractors to reduce or avoid costs.

The DCAA has major areas of concern with the contractors:

- internal control systems;
- management policies;
- accuracy and reasonableness of cost representations;
- adequacy and reliability of records;
- financial capability; and
- appropriateness of contractual provisions having accounting or financial significance such as the Defense Pricing Clause (FAR 52.215-22).

The initial step in the DCAA review process is called the Pre-Award Survey.

Pre-Award Survey

The purpose of the Pre-Award Survey is to determine if a prospective contractor has the capability to perform on a specific proposed contract. It is only conducted in connection with an offer and is related to the specific performance requirements of the contract to be awarded.

The Pre-Award Survey may entail an on-site inspection of the firm's facilities and qualifications. Normally, the survey is performed by the local USAF contracting office

> in conjunction with DCAA. However, before the survey team comes to your facility, it will attempt to gather as much information as possible about your firm. It will review the submitted proposal, past performance

> > records, prior Pre-Award Surveys, and the status of current contracts.

The survey team will assess any of the following capabilities

that it deems necessary.

TECHNICAL

Credentials that provide evidence of education and training that are relevant to the project and that match the statements in the proposal.



Can you perform? The **Pre-Award** Survey measures a contractor's financial capability and accounting system adequacy.

FINANCIAL

Ability to obtain the resources needed for successful contract performance. In Phase II, you will probably need to use accounting reports to support government billings. Therefore, this part of the survey will include an evaluation of your firm's accounting system. Items to be evaluated include balance sheet and income statements, backlog of contracts, cash flow charts, and bank commitment letters. Normally, this data will be collected on Standard Form (SF) 1407 – Pre-Award Survey of Prospective Contractor Financial Capability. (An example can be found in DCAA Pamphlet No. 7641.90. See Section5: References, page 5.3 for instructions on obtaining this pamphlet.)

PRODUCTION

Ability to plan, control and integrate manpower, facilities, equipment and other resources needed for successful completion of the project.

QUALITY ASSURANCE

Ability to perform up to required specifications in the time allotted by the contract.

SECURITY

Capability to have a facility that meets DoD standards for security clearance.

SAFETY AND ENVIRONMENTAL

Compliance with all appropriate local, state, and federal regulations concerning such issues.

PROPERTY

Whether government-furnished equipment (GFE) or government-furnished material (GFM) is necessary to complete the project and when possession by one party or the other occurs.

The Pre-Award Survey initially consists of a preliminary survey or paper audit. This preliminary survey is accomplished by the proposal evaluator and/or contracting officer. The evaluator assesses the proposed cost as to necessity and reasonableness; evaluates your firm's projected cost in terms of cost trends and historical pricing data; analyzes the costs of estimated labor, materials, tools, and facilities; and reviews your calculations and application of indirect cost rates and the capital cost of money. The evaluator will then try to research and compare the cost of similar proposals, cost estimates developed by USAF personnel, and/or previous cost

estimates the firm has submitted. If the proposal evaluator determines that any of the costs are out of line, unexplainable, or if more information is needed, DCAA is requested to perform a more detailed audit.

Once the preliminary survey is accomplished, all relevant information is provided to the DCAA auditor. The auditor will determine the scope and depth of the audit by using the following inputs: the contracting officer's requested area of concentration; previous audit experience of the company (both private and public); known weaknesses of accounting and internal control systems; the magnitude of the firm's USAF or government business; the firm's business cycle; the quality of the proposal package submitted; and the type and mix of contracts the firm holds.

After choosing the scope and preparing the audit plan, the auditor will notify you in writing. This usually occurs either several days or weeks in advance to give you time to gather all the necessary documents. On the day of the audit, the auditor holds an entrance conference to introduce the audit team members and ask for access to various documents and personnel. They will also answer any audit-related questions from your firm's officers. Upon completion of the audit, the auditor will hold an exit conference to summarize the team's findings, discuss discrepancies, and make any recommendations.

DCAA's primary concerns deal with your financial capability and your accounting system's adequacy for accumulating costs under the type of government contract to be awarded. DCAA will review the accounting system using the SF 1408 Pre-Award Survey of

PLEASE NOTE..



An operable accounting system under general ledger control is crucial when performing government contracts. If your firm's current work does not require this strict accounting and you do not want to install such a system unless awarded the contract, you must still develop a system that is operable though not necessarily in use. You must also be able to demonstrate this new system to the auditor and be ready to implement the system prior to incurring any costs on the government contract. Commercial software packages are available that meet these standards. New companies often benefit from employing personnel or consultants who understand these cost accounting systems.

Prospective Contractor Accounting System. (An example can be found in DCAA Pamphlet No. 7641.90. See Section 5: References for instructions on obtaining this pamphlet.) The auditor will promptly notify both you and the procurement official of the audit results. If your accounting system is unacceptable, the auditor will point out the deficiencies and usually identify recommendations for correcting the deficiencies.

Reporting Requirements

Under the contract you will incur certain obligations, not only in terms of the product or process, but also in terms of reporting requirements. These reporting requirements are deliverables and fall under a deliverable schedule. The deliverable schedule is a contractual obligation

which must not be breached. For instance, the government will require periodic reports on the status and progress of your research. These deliverables are items that can range from informal weekly reports to quarterly reviews and critiques.

Weekly reports provide a general summary as to the work accomplished for that particular week. The quarterly reports may involve task completion reports, cost breakdown reports, schedule adherence reports, milestone achievement reports, or special event/problem reports.

These reports provide a project history and paper trail that can prove very useful if problems arise at a later date. They also serve as excellent source documents for billing and payment purposes. They should provide a history of

all completed tasks, the resources expended on them, the man-hours utilized to complete them, and of the individuals who worked the task. The feedback from these reports can also serve as an indicator of how well you are performing from USAF's perspective.

The SBIR process

requires a

timely and

accurate

reporting

process

designed to

keep the

government

informed of

your progress.

The intention of these deliverable reports is to keep the government informed on your progress. As a fallout benefit, they will also help you manage the various functional aspects of your project. For example, task achievement, schedule, and milestone reports can help you stay on track in terms of labor resources and material costs. Problem reports are often helpful in reviewing procedures when similar or recurring problems arise. Summary reports are useful for developing briefings to senior management levels.

Government-Furnished Equipment and Facilities

Too often, contractors expect to use government-furnished equipment or facilities without getting a firm commitment from the government. This is usually due to a misunderstanding resulting from an informal discussion between the contractor and a government employee. A statement like, "I think that's a good idea," is not a firm commitment. Just prior to contract negotiations is a very bad time to find out that the government has made other commitments for the use of the equipment or facilities. Therefore, if you expect to take advantage of the government's capabilities, find out who has the authority to commit those capabilities and get a formal commitment prior to submitting your proposal. Timing is a key issue. Make sure that the period of use is a specific part of the agreement.

Intellectual Property Rights

Intellectual property is an interesting phrase that describes certain kinds of information or knowledge that may be considered property and afforded the same legal rights as tangible property. For instance, it can be owned, titled, bought, sold, or licensed. Intellectual property only pertains to inventions, technical data, or software. Protection of intellectual property is provided by the legal rights associated with trade secrets, patents, copyrights, and trademarks. This handbook is not intended to be a legal authority or to provide legal advice. It is intended to identify some of the key elements associated with intellectual property rights and contractual considerations. If you need more detailed information, you may want to retain an attorney that specializes in this area.

Included in all government research and development contracts is a section that describes the rights that each party maintains in regard to intellectual property. Because the government is supporting the development or application of the intellectual property, it naturally claims certain rights to that property and levies certain obligations on the contractor. To your benefit, the SBIR Program places less limits (compared to large entity contracts) on the rights that the government normally claims. The following are some definitions and explanations to help understand the process and its application.

INVENTION

Any invention or discovery that is or may be patentable or otherwise protectable under Title 35 of the U.S. Code.

SUBJECT INVENTION

Any invention of the contractor conceived or first actually reduced to practice in the performance of work under the contract.

DATA

Recorded information, regardless of the form or media on which recorded; does not include information incidental to contract administration, such as financial, administrative, cost or pricing or management information. The term data includes technical data and computer software. Software documentation can be considered either as software or as technical data.

COMPUTER SOFTWARE

Computer programs or databases; documentation thereof.

TECHNICAL DATA

Other than computer software, of scientific or technical nature.

RESTRICTED COMPUTER SOFTWARE

Developed at private expense and that is a trade secret, commercial or financial and confidential or privileged, or published copyrighted computer software, including minor modifications.

LIMITED RIGHTS

Rights to use, duplicate, or disclose technical data, in whole or in part, by the government, with the express limitation that such technical data shall not be released or disclosed outside the government without written permission of the contractor. In addition, the data cannot be used by the government for manufacture, or in the case of computer software documentation, for preparing the same or similar computer software.

GOVERNMENT PURPOSE LICENSE (GPL)

License to disclose data outside the government for government purposes (including reprocurement) on the condition that the recipient does not further disclose the data.

RESTRICTED RIGHTS IN SOFTWARE

The government acquires the following four minimum rights:

- use of the software on the computer for which acquired;
- use of the software with a backup computer;
- reproduction of the software for archive purposes; and
- right to modify the software while protecting the unmodified portion.

UNLIMITED DATA RIGHTS

The government can use, duplicate, release, or disclose the data in any manner and for any purpose and can permit others to do so.

FOUR FORMS OF PROTECTION

There are four forms of protection: (1) trade secret protection; (2) copyrights; (3) patents; and (4) trademarks. Following is an explanation of these four areas:

Trade Secret Protection

Trade secret protection may continue for as long as it remains a secret. Unrestricted disclosure will end trade secret rights. Independent discovery or reverse engineering by others may reduce the effectiveness of trade secrets.

Copyrights

Copyrights last 50 years after death of the last surviving author or 100 years from creation on works made for hire. Copyright notice is recommended but not required when a work is published or sold. Registration is required before bringing an action for copyright infringement.

Patents

Patents protect new and useful processes, machines, articles of manufacture, compositions of matter, and improvements thereof. Patent protection extends for up to 17 years.

Trademarks

Trademarks comprise names, symbols, words, or devices used to identify the source or origin of goods and services. They protect the goodwill and reputation of the owner, licenser, or seller of the goods or services.

MADE

Conception or first actual reduction to practice of such invention. There are three primary areas of intellectual property in which the government seeks to protect their interests: (1) rights to inventions made under contract; (2) rights to technical data; and (3) rights to computer software. Following is an explanation of these three areas:

Rights to Inventions Made Under Contract

The contractor may retain the entire right, patent, title, and interest throughout the world to each subject invention. If the contractor elects to retain these rights, the government shall have a nonexclusive, irrevocable, paid-up license to use the subject invention for governmental purposes throughout the world. If the contractor allows the government to take title or patent protection, the contractor shall retain a revocable, nonexclusive, royalty-free license throughout the world. The contractor also assumes the following obligations to protect the government's interests:

- execute or have executed all instruments necessary for the government to obtain title or obtain patent protection;
- require, by written agreement, its technical employees to disclose promptly in writing all subject inventions;
- notify the federal agency of any decision not to continue patent prosecution, pay patent maintenance fees, or defend re-examination 30 days prior to expiration of response period; and
- include within specification of U.S. patent application on subject invention the following statement: "This invention was made with government support under (identify contract) awarded by (identify federal agency). The government has certain rights in this invention."

The contractor must disclose a subject invention to the government contracting officer within two months after the inventor discloses it to the contractor. The contractor then has up to 24 months (which may be shortened if the invention is published, placed on sale, or put in public use) to decide whether to retain title to the subject invention. If the contractor fails to comply with either of these requirements, the government may obtain title to the subject invention.

Rights to Technical Data

In general, the contractor retains ownership of technical data. Through an Alternate in the Basic Data Rights Clause, SBIR contractors obtain expanded rights over that of non-SBIR contractors. For technical data pertaining to items, components, or processes developed at government expense, the government obtains limited rights for five years [DFARS 227.7104(b)]. After five years, the government would acquire government purpose license rights. If the technical data pertains to items, components, or processes developed at private expense, the government obtains limited rights with no expiration. Some types of data will always be accorded unlimited rights. This type of data includes form, fit and function data, manuals, and public domain data.

Department of Defense policy is to allow a contractor to copyright works that are prepared under contract with the government obtaining a copyright license for government purposes. An exception is the rarely used Special Works Clause when it is included for audiovisual works when the government retains ownership and control. Under the Federal Acquisition Regulation (FAR), the government requires the contractor to obtain copyright to special works and to assign the copyright to the government.

Computer Software

For computer software developed at either private expense or government expense, the government obtains restricted rights for five years. If the computer software was developed at government expense, after the five-year period the government would acquire government purpose license rights. The government can also acquire additional rights through a license agreement made part of the contract.

HERE'S A TIP...



HOT! DoD has recently made available a very useful electronic reference system for acquisition professionals. Called the Defense Acquisition Deskbook, it is available online and in printed form. The deskbook provides current information needed to manage and support acquisition initiatives. The deskbook offers an extensive library featuring applicable statutes and Federal, DoD, and Air Force information. It also features a World Wide Web site featuring links to many useful sites and updated acquisition news. See ordering information and WWW address under Federal Contracting Publications/Guidelines, page 5.3 in Section 5: References.

NOTES		

Commercialization



How to increase the viability of your proposal by targeting commercial customers.

Contents In Section 4

Introduction

Marketing Survey

Revenue Sources

The Business Plan

Introduction

Phases I and II of the SBIR Program are designed to support small firms during the research phase of their projects. This process makes more innovative research available to support government requirements. By providing substantial up-front funding, it also places small businesses in a better position to commercialize their products. In return for their investment, the government would like to see high success rates converting SBIR research into new technology and products. This provides both economic and military benefits to the nation. Phase III of the SBIR Program is the commercialization phase. In this phase, it is up to you to find the necessary, non-SBIR funding support to transform your research into a product or process.

This section is designed to help small businesses understand and access the various funding methods and sources. It is targeted more toward the small R&D type business versus a business that already has R&D, marketing, manufacturing, and distribution capabilities. The former has more need for this information. This targeting will limit the amount of information presented and hopefully make it easier to understand. For example, certain types of funding would be inappropriate for the targeted audience, such as selling stocks and bonds to the public, and will not be covered.

To obtain funding for the commercialization of your research, you will probably need to understand a few things about each of the three subsections that follow:

- marketing survey;
- revenue sources; and
- the business plan.

The marketing survey will help identify customers and customer needs. The revenue sources portion explains various types of funding, and how to find them. The business plan section is provided because a well-written plan is usually needed to convince investors to support your efforts.

Remember, a commitment for Phase III funding should ideally be obtained prior to the Phase II proposal submittal. It enhances your chances of winning the Phase II award. Also, when seeking a sponsor commitment from an established company, the Not Invented Here (NIH) syndrome is difficult to overcome. The earlier you get them involved in the development process, the less NIH resistance you will receive.

Marketing Survey

The marketing survey for a small R&D firm is significantly different from the generic, textbook marketing survey that is targeted at large production companies. The textbook survey primarily deals with methods for surveying private-user wants and needs. Your marketing survey will probably deal more with methods for identifying corporate customers, and their wants and needs. The main differences are in the sources of information and the number of customers. If you are looking to sell technology, one customer may be enough. On the other hand, if you were trying to sell a household-use product, millions of customers would be needed.

Prior to actually talking to prospective customers, you must have a good understanding of your product and

company. Fully understand your technology and use that knowledge to speculate the applications in which it fits. This is the point where your company must start thinking in terms of commercial viability of the

application, rather than only the technical merits of the technology. Customers will immediately want to know how your technology will improve their competitive position in the industry. Finding applications for your technology may be one of your most difficult tasks. But, once you understand a few applications, it will be easier to

you apart from your competition?

product's potential customers. start targeting the corporations (markets) that have a need for your product. Furthermore, you must understand your firm's competitive advantages. You must know your competition. Who are they? What alternatives do they provide? What can you promote (i.e., quality, product

Developing

a viable

marketing

survey

requires the

identification

of market

segments that

make up your

Think as hard and creatively about the potential commercial applications as you do about your research. Repeatedly answer the question, "What can the technology do and for whom?" The more innovative the market

support, costs, timeliness, or other factors) that sets

application, the higher the potential for commercial success. Innovation can contribute substantially to patentability, minimize competition, improve profit margins, and increase the interest of potential partners or investors.

In the following subsection Revenue Sources, various kinds of commitments necessary to obtain funding are discussed. For instance, equity financing requires giving up a certain amount of control in the management of your company. With alliances, you have to share decision making with another company. When you sell or license your technology, you lose all control of the end product. There are also certain advantages associated with the different kinds of financing. You should understand these principles before you start talking to prospective customers and find yourself making uninformed decisions.

Now that you have reviewed your company objectives, your potential product applications, and financial issues,

you are ready to start the marketing survey. The marketing survey primarily consists of networking until you find the right customer. Networking is systematically talking to as many of the right people as possible, then listening to, and learning from their responses. The goal is to get your ideas

to as many prospects as it takes to sell your product.

Start with people that you know in your industry. If you know them, it is easier to talk informally and you will be less worried about making mistakes. These are people that understand your technology. They may also know of a company that is already in the market for your product. Tell them what you are trying to do and what you believe are your best options. Be careful about what you say. Do not give away your valuable trade secrets in these discussions. Put on your thick skin and listen to their responses without challenging their opinions. You are out to make friends, not enemies. The purposes of these discussions are threefold:

- to find the weak and strong points of your presentation so that it improves with time;
- to gain any bits of insight these people may possess that will eventually lead you to your customer or financier; and
- if your ideas are exciting, some of these people will become advocates and help champion your cause.

When networking you want to ensure the recipient remembers the correct information. Do not rely on their memory. Develop a written summary that you can leave or send to them. If you will be searching for equity loans to support final development or commercialization, you will need a three- to five-page written summary that includes the following information. During your market survey is a good time to draft and improve at least portions of this summary:

- a brief description of your research and its anticipated results, particularly what is unique or innovative;
- the technical and market applications in terms of specific products, processes, and services;
- whether patents exist or are possible;
- the market size now and in five years and your potential share; and
- current and prospective competitive products or processes, now and in the near future, and the advantages your technology might have.

SBIR Project Managers provide a good starting point for your networking effort. They participate in various conferences, seminars, and technology exchanges. These events provide ample opportunities for obtaining and exchanging information with organizations nationwide. They also routinely interface with commercial organizations. This is a powerful networking source. Armed with information regarding your Phase III plans, a willing SBIR Project Manager may help match your products with another organization's needs. The SBIR Project Manager or Program Manager can also identify firms that specialize in helping SBIR recipients commercialize their products.

The initial networking with people that you know has many advantages but their information is limited and may not provide all the results you are seeking. They will undoubtedly provide you with some information and prospects that you need to contact. However, if you want or need to interface with even more prospects, there are resources available to help you find them.

The library can be an excellent source. *The Encyclopedia of Associations* is found in the library's reference section. Use it to identify the associations that deal in your product application area of interest. In the library's business section you can find names of the vice presidents of the major functional units of many

organizations. These references include Standard and Poors' Register of Corporations and Dun and Bradstreet's Million Dollar Directory. Although the vice president is not a good starting point, their secretary can be invaluable in directing you to the right people within the corporation. The librarian can probably help find other references if necessary. Many university libraries provide, for a fee, an on-line computer service called Dialog. It can be used to electronically access newspapers and technical newsletters to provide you with current information on topics of interest and automatic updates.

Another source of information concerning companies and people that work in the areas of your interest is conferences and conventions. Conference and convention proceedings identify people and companies, and their current projects. The *Directory of Conventions* will also identify upcoming conventions that you may wish to use for networking.

Remember, the purpose of the marketing survey is to gain information. Networking is probably the fastest method to accomplish your goal. Use the networking to find the best market for your product. Many heads are better than one at finding innovative applications and new paradigms that can be used in convincing sponsors or buyers. Work with others for the best results.

Revenue Sources

Once you have chosen an application and prior to talking to prospective funding sources, you should formulate a development plan with the following functions:

- describe the application;
- detail the use of your technology in the application;
- outline the steps necessary to get the technology from its current state to its commercial state;
- provide an estimated time of completion by stages or milestones;
- furnish a listing of personnel, materials and other resources necessary for each stage; and
- provide a budget for the various stages so that funds and resources will be available at the appropriate times.

These are the types of questions you will be repeatedly asked. If you have them written in a concise form it will be a quick reference or handout.

Your SBIR Phase I award provides the initial start-up capital to research your idea. If you are successful in winning a Phase II award, you will receive substantial support towards the development of your technology. Although the Phase I and Phase II support makes it easier to gain follow-on funding by enabling you to prove your idea works, Phase III funding must come from non-SBIR sources. There are basically five categories of funding that you can utilize to commercialize a product:

- debt loans;
- equity loans;
- strategic alliances;
- outright sale of your intellectual property; and
- initial public offerings (IPOs).

Each category has positive and negative aspects. Your choice will probably depend on the availability, the amount of control you are willing to relinquish, your company goals, and your stage of development. The following paragraphs will identify some of the key aspects to help you make a choice.

DEBT LOANS

Debt loans are typically loans from banks, relatives, or friends that are interest bearing. This means that the payback is the principal plus an agreed-to interest or finance charge. With this type of loan, you retain management control over the operation of the company. However, new ventures are considered very risky and debt loans are difficult to obtain from traditional lending institutions. The availability of debt loans changes over time and may be a viable option at the time you apply.

EQUITY LOANS

Equity loans generally include investments by venture capitalists, the venturing unit of large corporations, and so-called business angels. The equity investor receives part ownership in the company in exchange for the financial investment. If the investor provides a large sum of money, he or she will probably require a seat on your Board of Directors and take a strong interest in seeing your company succeed. This part ownership can be considered either positively or negatively. If your firm does not wish to relinquish any control, equity loans

are considered negatively. If the management advice and skill of a seasoned veteran with a large stake in the outcome is welcome, then the proper equity loan would be considered a positive.

If the equity route is chosen, you must carefully select the firm or person with whom you allow to help control your company. They will investigate your capabilities thoroughly before agreeing to invest. You should likewise investigate their capabilities thoroughly before accepting their investment.

<u>Venture capital firms</u> are generally privately owned. They are very cautious organizations because most of their money comes from pension funds. Generally, they are interested in creating a high rate of return, often 10:1

or higher, by investing in rapidly growing businesses in all stages of development.

They tend to specialize by geographic location and type of technology or product. Competition for venture capital is very high, which means that you must be highly prepared to compete. Being prepared means being ready to present a strong management team, a

Phases I & II
of the SBIR
Program
provide a
financial

ready to present a strong
management team, a
good business plan, and a
worthy investment opportunity.

Sources for finding venture

Sources for finding venture capitalists are numerous. There are several guides that you should be able to find in your local library that include *Pratt's Guide to Venture Capital Sources* and *Who's Who in Venture Capital*. You may also want to consult with your Chamber

of Commerce, attorney, accountant, or banker to find venture capitalists and receive a referral. Apart from a referral, many venture capitalists prefer a phone call to initiate your inquiry. Indicate your reason for the call and be prepared to briefly discuss your research, its potential technological applications, and the estimated market potential. In general, these sources prefer a new application in a proven large market and want to be

assured of your commitment to serve that market. If there is preliminary interest, many will initially request a three-to five-page summary which would include the following:

- a brief description of your research and its anticipated results, particularly what is unique or innovative;
- the technical and market applications in terms of specific products, processes, and services;
- whether patents exist or are possible;
- the market size now and in five years and your potential share; and
- current and prospective competitive products or processes, now and in the near future, and the advantages your technology might have.

PLEASE NOTE...



If your invention has any commercial viability, it is to your advantage to obtain a patent. This provides you the right to prevent others from making, using, or selling your invention for the life of the patent. It provides a 17-year exclusionary right on your invention which makes it more commercially viable. Most investors, manufacturers, or venture capitalists are looking for some type of an advantage in the marketplace and a 17-year exclusionary right on a new technology can be a significant competitive edge.

Venture capital units of large corporations work very much the same as private venture capitalists. They simply specialize more in technologies and products that fit within their corporate business plan.

Business angels are an informal group of investors seeking capital gains income to increase their already large net worth. They are typically very experienced business people that provide money, contacts, and management expertise. Business angels are not listed in publications, so word of mouth is the best method to find them. Again, the Chamber of Commerce, business attorneys, accountants, bankers, and business friends are the best sources to initiate your search. It is estimated that the pool of business angels is larger than the pool of venture capitalists. Therefore, if you are looking for the advantages associated with equity loans, you should spend the effort to find a few recommended business angels.

STRATEGIC ALLIANCES

Strategic alliances are teaming arrangements that do not necessarily require debt or equity transactions. These alliances include joint ventures, marketing and distribution agreements, licensing agreements, and R&D limited partnerships. They are usually contractual agreements between two or more firms to take advantage of their complimentary skills and develop a synergistic relationship. All of these alliances require mutual respect and trust.

A *joint venture* is a collaboration of two companies to form a separate legal entity while retaining their separate identities. There are several viable reasons for forming a joint venture. The most common reasons for an SBIR firm might be for personnel exchanges, resources, technology transfer, or diversification. The key to forming a joint venture partnership is to clearly understand your needs and find an organization that can provide what you need and needs what you can provide.

Marketing and distribution agreements are usually formed to take advantage of existing marketing and distribution strengths of a particular company within a specific geographic area. In this contractual arrangement, one company provides the product and the other company provides the marketing and distribution.

Licensing agreements may be the most common for SBIR companies that plan to devote their efforts to research and development activities and have little interest in production or marketing activities. Licensing is a method to allow another company to utilize conditional aspects of your intellectual property rights in return for a fee or royalty payments. Intellectual property can be very valuable and you should take every possible step to protect it. Patent protection is the most important type of protection for technologies. Licensing agreements, like the other strategic alliances, embody complicated legal issues that should be overseen by an attorney that is familiar with licensing and non-disclosure agreements. The negotiation phase can be dangerous in terms of disclosing trade secrets. Be careful not to disclose your confidential information until after you have piqued their interest enough to sign a good non-disclosure agreement.

R&D limited partnerships are arrangements where a partnership is formed of limited partners for the purpose of investing in research and development. The partnership contracts with an entrepreneur to conduct R&D in exchange for certain ownership rights to the results. In this agreement, the entrepreneur retains the right to buy back the end product of the R&D effort. This alliance was in great favor after a 1974 interpretation of the Internal Revenue Code by which limited partners were not taxed on their investments, as long as they were taking a significant business risk. In 1986 the tax laws were modified and, although limited partnerships are still being formed, their viability as a funding vehicle is reduced.

OUTRIGHT SALE OF YOUR INTELLECTUAL PROPERTY

The outright sale of your intellectual property is fairly self-explanatory. If you have patents, copyrights, trademarks, or trade secrets, you can gain financing for other non-related projects by selling them to anyone with whom you can make an agreement. With selling, as opposed to a licensing agreement, you sell the entire rights and ownership of the intellectual property. In a licensing agreement, you sell the conditional use of your intellectual property.

INITIAL PUBLIC OFFERINGS (IPOs)

Initial public offerings are methods of financing by selling part ownership in your corporation to the public. This is usually accomplished by selling stocks or bonds in your company. To gain financing of any magnitude, this process requires transitioning from a privately owned company to a public company. Publicly owned companies must register with, and are regulated by the Securities and Exchange Commission. You should review the appropriateness of this financing source, considering costs, time lags, and the complexities introduced by having private shareholders.

TYPES OF RISK

The type of funding approach selected will probably be determined by two factors — risk and control. This is the risk tolerance of the funding sources, and the amount of control you are willing to give up to obtain project funding. In the commercialization of new technology, there are three types of risk: technical risk; market risk; and financial risk.

Technical Risk

Technical risk is the chance that the proposed technology will not work satisfactorily, and the funds invested will be lost. This risk is substantially reduced through the SBIR Program. The funding of Phase I provided the basic research which should have proven the concept's feasibility. The funding of Phase II provides the opportunity to work a practical application that usually emerges as a working prototype. Therefore, the risk for the various lending institutions, investors, and venture capitalists is the marginal risk that the technology cannot be converted to a commercially viable product.

Market Risk

Market risk is the possibility that the technology cannot be sold even if it performs as intended. This usually occurs if the marketing data and analysis are wrong, or the costs of production make the technology prohibitively expensive. Under the SBIR Program, even this risk is reduced. If the government is satisfied with the results of the Phase II research, there could be a USAF market for the product. This market could help reduce and possibly offset fixed production and servicing costs as well as provide a demonstration of the technology.

Financial Risk

Financial risk is the risk that the return on investment for this particular investment opportunity will not be as high as other available alternatives. This type of risk is a function of the overall economy versus the expected return on investment your technology will produce.

There are many companies in the marketplace looking to invest their money and make a good return. All have individual preferences, standards, criteria and philosophies with respect to risk. It is up to you to find an appropriate firm as early in the process as possible.

If you are willing to bear high technical risk but only moderate financial and market risk, you may want to search for a good licensing agreement. If you are only willing to bear moderate technical risk but higher market and financial risk, you might want to consider a joint venture. Then again, if you can bear high

technical and market risk but only low financial risk, an equity opportunity may be the best approach. The same philosophy applies to the lending companies and financial institutions. Some have an aversion to a particular kind of risk, others to certain fields or types of research, and still others invest only at certain phases or milestones of the research.

The Business Plan

There are nearly as many ways to develop a business plan as there are businesses. There is no pat formula or format where you can simply plug in impressive words to excite employees and outsiders. The business plan is your business, on paper. It tells who you are, where you are going, and how you expect to get there. The process of developing and revising the business plan is the gateway to company prosperity and growth. As an internal document, it charts the road map that

A solid

business plan

can provide

the "vehicle"

that helps

steer your

enterprise on

the road to

commercial

success.

builds confidence and teamwork by showing management and employees that the company has carefully thought

about purpose and direction. As an external document, it shows potential

investors that you are committed to financial growth, you know how to get there, and you have the management structure to make it happen.

The beginning of the process is fairly straightforward. You just form the development team, outline the task, and everyone

half-heartedly commits to the effort. After all, everyone has other important things to do. The middle of the process can be grueling and frustrating. This is when the many tough questions get asked repeatedly and few clear answers seem to emerge. At this stage, the leader (President or CEO) needs to keep the team together and moving forward. The final stage of the process is where the answers begin to appear and the process gets exciting. After all, you are taking control of your future! As you go through the process, keep in mind that the exciting part is coming and that it will be worth the effort.

The following list is a compilation of recommendations from previous Phase II and Phase III firms, venture capitalists, SBIR Program Managers, and Project Managers. The primary purpose of this section is to help you develop an external business plan for obtaining financial backing. An internal plan would simply include more company sensitive (confidential) information and management guidance.

There are several areas that your business plan should address to help present a potential return on investment (ROI) opportunity to investors. The following discussion is not intended to represent the best format, titles, or organization for your firm's business plan. It is only intended to identify and discuss areas that are pertinent to presenting your case. As you develop your plan, your own style and order will become evident. The important factor is the actual development of the plan. It is in the development that the tough questions are asked enough times that they finally get answered.

EXECUTIVE SUMMARY

The investors that read your business plan are executives and prefer to first read a two-page summary to see if they are interested enough to read the rest of the plan. Therefore, the executive summary is very important. It should highlight the

key elements of the plan. Those key elements might include the nature of your technology or product; your sustainable competitive advantage in the market; your management team; the type of financial arrangement you are interested in pursuing; your projected financial data; and the potential return on investment. Always remember that the investor is not interested in helping you do something wonderful. Investors are interested in reaping the ROI by helping somebody do something profitable.

COMPANY

You will need a section that tells them about your company. Provide a history, preferably a history that shows growth. If not, show that you understand the reason and identify specific measures the company has taken to correct that situation. Include a purpose and a mission or vision statement. Identify the type of business (partnership, S Corporation, etc.) and distribution of equity. Identify your future in terms of goals and objectives. The goals will indicate what growth you intend to accomplish and the objectives will declare how and by when.

PRODUCT/TECHNOLOGY/SERVICE

Define precisely what you intend to develop. Include the features, competitive advantages, and benefits. What is particularly innovative about your research and the anticipated results? Do not get too hung up on the pure research or technical aspects of your project. The investor will not understand the technical issues and may quit reading. Concentrate on the capabilities that make the results marketable. That will keep them interested. Identify any legal protection your company has received, or applied for, such as patents, copyrights, or trademarks. Development milestones need to be clearly defined. Demonstrate an understanding of where your product fits within the industry life cycle. Include a discussion of the company's other existing or planned products, technologies, or services. Describe the types of technology or products you have already developed and for whom.

MARKET

Describe the market that you feel is the best opportunity for your technology or product. Provide the information that made you choose this market. How did you segment the market? Why did you segment it that way? How will you reach the market? Describe your five-year forecast for the market. A five-year forecast is important within several areas of your business plan. Five years is a typical time period for investors to calculate their total return on investment. They have a threshold five-year ROI that governs their investment decisions and they want to ensure that you have thoroughly researched the future of your target market.

COMPETITION

Understanding your competitive position is a critical factor in the success of your endeavor. Your competitors will not sit idle and watch you take away their markets. You must demonstrate a considerable awareness of who will be competing, their strengths, their weaknesses, and their market shares. Indicate the share of the market you intend to capture over the next five years and your reasoning for the forecast. You must also portray your competitive strengths and weaknesses in terms of product performance, price, manufacturability, reliability, style, and service.

For those areas that are weaker than the competition's, enumerate the actions that you plan to take to remedy the deficit. Competition awareness is a key element of a business plan even if you only intend to license your

technology or form a strategic alliance. The degree of opportunity is directly proportional to your competitive position. This area is too important to play with so be realistic. Do not overstate your competitiveness and do not understate others' competitiveness.

MARKETING

If your company objectives require a marketing capability, then perform a marketing analysis and develop a separate marketing plan. Then highlight your marketing plan in your business plan. The highlights should quantitatively summarize your marketing goals. They should also describe your promotional concepts, pricing strategy, distribution channels, and distribution plan.

MANUFACTURING AND OPERATIONS

Like marketing, if your company objectives require a manufacturing capability, include a section in your business plan. This section should summarize the kind, quality, and extent of your manufacturing capability. It should also contain a discussion of your production strengths and weaknesses with indications of how you plan to strengthen your weaknesses. If the reason for seeking financing is to initiate or expand your production capabilities, an extensive explanation of all the particulars will be required. The explanation should include what resources and facilities, when, why, costs, and tax implications.

Resource requirements and cost will be other major concerns. Users will want to know if they need any special equipment or if there are any special conditions in order to use the new technology. If the latter applies the user will have to perform a current and future cost benefit analysis. All such issues must be carefully anticipated and addressed, so that upon presentation of the new technology to prospective customers, investors, venture capitalists, and/or lenders, the technology will be judged on its merit and not on support issues.

MANAGEMENT

Your management team is probably the single most important factor in helping gain external funding. Prospective investors insist on a well-balanced management team. They would much rather that you bring one to the table than have to provide expertise to fill your voids. Larger companies may already have a complete complement of business expertise. Whereas a smaller company may have a "business team" as small as one

individual, it is totally appropriate to engage the part-time services of experienced professionals or consultants to fill in your team. Business attorneys, accountants, marketing specialists, and engineers can help round out your team nicely. The following paragraphs describe the type of business team required.

The <u>Team Leader</u> should be a senior-level person with marketing, operations, and research and development experience and have sufficient authority to obtain the resources necessary to make sure the plan is produced.

The <u>Technical Expert</u> or <u>Specialist</u> who knows the most about the project. This person is most likely the principal investigator who has a good idea of the project growth and progress from previous phases. The Technical Expert is the person who will tell the marketers and other team members about unresolved problems that were encountered and overcome during previous phases. This individual knows the amount of time, energy and effort expended to solve the problems and the cost of overcoming them.

The <u>Marketing Specialist</u> is the person charged with finding a buyer and making the deal. This person should be a good strategist and help with the development of the Phase III plan. This person should also be able to determine changing market conditions and modify the plan when necessary; know what kind of resources are needed for sales efforts; have a good intuitive sense and be able to dissect research findings; and understand enough of the selling process in order to act as a facilitator in key sales meetings. Marketing consultants and university marketing professors can help the smaller firms by providing experience, advice, and developing a comprehensive market analysis.

The *Financial Specialist* must be able to provide clear financial direction in the marketing effort and the evaluation of sales. This individual must also be able to evaluate the company's exposure to risks and should have a good understanding of various accounting systems, pricing and estimating systems, and audit procedures. The Financial Specialist must be able to develop financial projections and calculate return on investments based on provided criteria. An experienced part-time accountant can help smaller firms accomplish many of these tasks.

The *Business Attorney* will obviously provide the legal advice. It is important to have an attorney that is experienced with strategic alliance contracts and venture capital dealings. The knowledge and contacts can be extremely valuable.

CONTINGENCY PLANNING

Every plan is based upon a certain number of assumptions. The contingency plan must identify the assumptions that are critical to the planned actions or have a low confidence factor. Contingency plans should be identified for each of these assumptions.

FINANCIAL SECTION

Every business plan should have a financial section that incorporates your past three years of financial statements and your five-year projection. The past financial statements should include your balance sheets and profit and loss statements. Provide any necessary explanations. The future projections should include projected balance sheets, profit and loss projections, and cash flow projections. The financial section puts numbers to and pulls together the information provided in the other sections of the plan. The investors will be very interested in this section because it will indicate how encumbered they would be with your deal.

NOTES			

References



Your success is made easier by getting plugged in to the right channels of support.

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SBIR Program Managers

Small Business Administration Publications

DoD Publications on Contracting

Federal Contracting Publications/ Guidelines

Glossary of Contracting Terms

Organizations Providing SBIR Assistance

On-Line Resources

Small Business Development Centers

State SBIR Program Support

SBIR Program Managers

Department Of Defense

Mr. Jon Baron OSD/SADBU SBIR/ STTR Program Manager T: (800) 382-4634 (SBIR Help Desk) F: (800) 462-4128 www.acq.osd.mil/sadbu/sbir

U.S. Air Force (DoD)

Ms. Jill Dickman SBIR Program Executive AFRL/XPTT 2310 8th Street, Bldg. 167 Wright-Patterson AFB, OH 45433 T: (800) 222-0336 http://tto.wpafb.af.mil/TTO/sbir/index.htm

U.S. Army

Dr. Ken Bannister
SBIR Program Manager
Army Research Office — Washington
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5001 Eisenhower Avenue
Alexandria, VA 22333-0001
T: (703) 617-7425
F: (703) 617-8274
www.aro.ncren.net/arowash/rt/sbir.htm

U.S. Navy

Mr. Vincent Schaper
SBIR Program Manager
Office of Naval Research
800 N. Quincy Street
ONR 362 SBIR
Arlington, VA 22217-5660
T: (703) 696-8528
F: (703) 696-4884
www.onr.navy.mil/sci_tech/industrial/sbir_bbs

BMD0

Mr. Jeff Bond, III SBIR Program Manager BMDO (TOI), Suite 809 1725 Jefferson Davis Highway Arlington, VA 22202 T: (800) 937-3150 F: (703) 604-3956 www.futron.com/bmdo/sbir.html

DARPA

Ms. Connie Jacobs SBIR Program Manager Defense Advanced Research Projects Agency 3701 N. Fairfax Drive Arlington, VA 22203-1714 T: (703) 526-4162 www.darpa.mil/sbir

SBIR Program Managers (cont.)

Special Operations Command (SOCOM)

Ms. Karen Pera
SBIR Program Manager
United States Special Operations Command
2600 Pink Flamingo
Building 143
MacDill AFB, FL 33621-5323
T: (813) 828-9491
F: (813) 828-9488
www.soac.hqsocom.mil

Defense Special Weapons Agency

Mr. Bill Burks SBIR Program Manager Defense Special Weapons 6801 Telegraph Road Alexandria, VA 22310-3398 T: (703) 325-5021 F: (703) 325-9294 www.dswa.mil

Department of Agriculture

Dr. Charles Cleland
SBIR Program Manager
U.S. Dept. of Agriculture
Cooperative State Research, Education and Extension
Services, Stop 2243
AG Box 2243
Washington, DC 20250-2243
T: (202) 401-4002
F: (202) 401-6070
www.reeusda.gov/sbir/sbir.htm

Department of Commerce

Dr. Joseph Bishop SBIR Program Manager U.S. Dept. of Commerce 1315 East-West Highway, Room 11464 Silver Spring, MD 20910 T: (301) 713-3565 F: (301) 713-4100 www.oar.noaa.gov/ORTA/SBIR

Mr. Paul Mexcur

National Aeronautics and Space Administration

SBIR Program Manager
NASA Goddard Space Flight Center
Code 705 Bldg. 11
Greenbelt, MD 20771
T: (301) 286-8888
F: (301) 286-0170

http://nctn.hq.nasa.gov/nctn/SBIR/SBIR.html

National Science Foundation

Mr. Kash Narayanan Director, Industrial Innovation National Science Foundation 4201 Wilson Boulevard, Room 590 Arlington, VA 22230 T: (703) 306-1391 F: (703) 306-0337 www.eng.nsf.gov/sbir/

National Institute for Standards and Technology (NIST)

Mr. Norm Taylor SBIR Program Manager Department of Commerce/NIST North Campus Bldg., Room 306 820 West Diamond Avenue Gaithersburg, MD 20899 T: (301) 975-4517 F: (301) 548-0624 http://ts.nist.gov/ts/adhotdocs/200/204/204.htm

Department of Education

SBIR Program Manager
Department of Education
Office of Educational Research and Improvements, PLLI
Room 508 Capital Place
555 New Jersey Avenue, NW
Washington, DC 20208
T: (202) 219-2004
F: (202) 219-1407
www.ed.gov

Department of Energy

Dr. Robert Berger SBIR Program, ER-32 U.S. Dept. of Energy 19901 Germantown Road Germantown, MD 20874-1295 T: (301) 903-3054 F: (301) 903-5488 http://sbir.er.doe.gov/sbir

Department of Health and Human Services

SBIR Program Manager 200 Independence Avenue, SW HHH Building – Room 517D Washington, DC 20201 T: (202) 690-7300 F: (202) 690-8772 www.nih.gov/grants/funding/sbir.htm

Environmental Protection Agency

Mr. Donald Carey SBIR Program Manager Environmental Protection Agency Environmental Engineering Research Division (8722) 401 M Street, SW Washington, DC 20460 T: (202) 564-6829 F: (202) 564-2447 www.epa.gov/ncerqa/

Department of Transportation

SBIR Program Manager Volpe National Transportation Systems Center, DTS-22 55 Broadway, Kendall Square Cambridge, MA 02142-1093 T: (617) 494-2051 F: (617) 494-2497 www.volpe.dot.gov/sbir.htm

SBA Publications

These publications may be ordered by written requests to the addresses provided.

A Guide to State Supported SBIR Programs

SBA Office of Innovation, Research, and Technology U.S. Small Business Administration P.O. Box 15434 Ft. Worth, TX 76119

Accounting Services for Small Service Firms

Management Aids Number 1.010 U.S. Small Business Administration P.O. Box 15434 Ft. Worth, TX 76119

Budgeting in a Small Service Firm

Management Aids Number 1.015 U.S. Small Business Administration P.O. Box 15434 Ft. Worth, TX 76119

Marketing for Small Business

Small Business Bibliography Number 89 U.S. Small Business Administration P.O. Box 15434 Ft. Worth, TX 76119

Profit Costing and Pricing for Services

Management Aids Number 1.020 U.S. Small Business Administration P.O. Box 15434 Ft. Worth, TX 76119

Proposal Preparation for Small Business Innovation Research

U.S. Small Business Administration SBIR-TI P.O. Box 15434 Ft. Worth, TX 76119

Setting Up a Pay System

Management Aids Number 5.006 U.S. Small Business Administration P.O. Box 15434 Ft. Worth, TX 76119

Sound Cash Management and Borrowing

Management Aids Number 1.016 U.S. Small Business Administration P.O. Box 15434 Ft. Worth, TX 76119

DoD Publications on Contracting

These publications may be ordered by written requests to the addresses provided.

DoD Supplement to the Federal Acquisition Regulation

Superintendent of Documents U.S. Government Printing Office Washington, DC 20402

Guide to the Preparation of Offers for Selling to the Military

Superintendent of Documents U.S. Government Printing Office Washington, DC 20402

Guide to Defense Contract Finance Regulations for Small Business, Small Disadvantaged Business, Women-Owned Small Business

Superintendent of Documents U.S. Government Printing Office Washington, DC 20402

Guide to the Defense Contracting Regulations for Small Business, Small Disadvantaged Business, Women-Owned Small Business

Superintendent of Documents U.S. Government Printing Office Washington, DC 20402

Selling to the Military, DoD 4205.1-M

Superintendent of Documents U.S. Government Printing Office Washington, DC 20402

Federal Contracting Publications/Guidelines

Defense Acquisition Deskbook

Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402
T: (202) 512-1800
Order Code: "DESK"
Cost: \$35/year (includes quarterly CD-ROM updates)
www.deskbook.osd.mil

Commerce Business Daily

Superintendent of Documents U.S. Government Printing Office Washington, DC 20402 To order: T: (202) 783-3238 F: (202) 275-0019

DCAA Guide to New Contractors

DCAA Pamphlet No. 7641.90 Defense Contract Audit Agency Cameron Station Alexandria, VA 22304-6178 T: (703) 767-2270

(continued on the next page)

Federal Contracting Publications/Guidelines (cont.)

Federal Acquisition Regulation Superintendent of Documents U.S. Government Printing Office Washington, DC 20402

Guide to Contracting Regulations Superintendent of Documents U.S. Government Printing Office Washington, DC 20402

Glossary of Contracting Terms

Administrative Contracting Officer: A contracting officer assigned to perform administrative functions after a contract is awarded.

Allowable Costs: Those costs that are reasonable, comply with generally accepted accounting procedures or the Cost Accounting Standards, comply with the terms and conditions of the contract, and comply with Part 31 of the FAR.

Certificate of Competency: A document issued by the Small Business Administration that declares a small business is responsible and able to perform a specific contract.

Cost Accounting Standards: Cost accounting practices which must be followed by large defense contractors and subcontractors.

Cost-Plus-Award-Fee Contract: A cost-reimbursement contract type in which the contracting officer can award an additional fee to the contractor based on the quality of work, timeliness, ingenuity, cost effectiveness, etc.

Cost-Plus-Fixed-Fee Contract: A cost-reimbursement contract type in which the contractor is awarded a fixed dollar amount as a fee no matter how successful or unsuccessful its efforts are.

Cost-Plus-Incentive-Fee Contract: A cost-reimbursement contract type in which the contractor is awarded a greater or lesser amount of a fee depending on how well the contractor performs in relation to the incentives specified in the contract.

Cost-Reimbursement Contract: A basic contract type in which the contractor is compensated for allowable expenses incurred in contract performance.

Defense Federal Acquisition Regulation: The rules which govern all defense purchases made by the DoD.

Direct Costs: Expenses which a contractor incurs during performance of a specific contract.

Federal Acquisition Regulation: The rules which govern all purchases made by the government.

Firm-Fixed-Price Contract: A contract in which the contractor is paid a specified amount for supplies or services, regardless of the actual cost of contract performance.

Fixed-Price Contract: A basic contract type in which the contractor agrees to provide a supply or service in exchange for the payment of a fixed amount.

Fixed-Price Incentive Contract: A fixed-price contract in which the contractor earns or loses profit based on how well actual contract costs compare to the "target" cost.

Fixed-Price with Economic Price Adjustment Contract: A fixed-price contract that permits an element of cost to fluctuate to reflect current market prices.

General and Administrative Expenses: The costs of a firm's general and executive offices, staff services (i.e., legal, accounting, public relations), and other activities related to the function of the business as a whole.

Indirect Costs: Expenses which a contractor incurs that cannot be attributed to any one particular contract.

Negotiations: The process by which the contracting officer and the offeror establish the contract requirements and determine a fair and reasonable price for the performance of the contract.

Overhead Rate: A ration of a contractor's projected indirect costs and direct costs. It is a method that ensures a fair share of the indirect costs is charged to each contract.

Pre-Award Survey: A review and assessment of an offeror's ability to perform a contract. The results of the survey assist the contracting officer in making his/her determination of responsibility.

Progress Payments: A procedure by which a contractor performing a fixed-price contract is reimbursed a percentage of its costs as those costs are incurred.

Proposal: A written offer to perform a contract. It explains how the offeror intends to meet the government's requirements and how much it will cost the government for contract performance.

Research or Research and Development: Any activity which is: (1) a systematic, intensive study directed toward greater knowledge or understanding of the subject studied; (2) a systematic study directed specifically toward applying new knowledge to meet a recognized need; or (3) a systematic application of knowledge toward the production of useful materials, devices, and systems or methods including design, development, and improvement of prototypes and new processes to meet specific requirements.

Small Business: Firm that at the time of Phase II meets the following criteria: (1) is independently owned and operated, is not dominant in the field of operation in which it is proposing, and has its principle place of business located in the United States and is organized for profit; (2) is at least 51% owned, or in the case of a publicly owned business, at least 51% of its voting stock is owned by U.S. citizens or lawfully admitted permanent resident aliens; (3) has, including its affiliates, a number of employees not exceeding 500, and meets the other regulatory requirements found in 13 CFR Part 121.

Subcontract: Any agreement, other than one involving an employer-employee relationship, entered into by a federal government contract awardee calling for supplies or services required solely for the performance of the original funding agreement.

Unallowable Costs: Contractor costs which the government is not permitted by law to pay or which are prohibited by terms of the contract. Complete listing of these costs is contained in Federal Acquisition Regulation Part 31.

Glossary of Contracting Acronyms

ACE-Net: Angel Capital Electronic Network

ACO: Administrative Contracting Officer

AFCESA: Air Force Civil Engineering Support Agency

AFMC: Air Force Materiel Command

AFOSR: Air Force Office of Scientific Research

AFRL: Air Force Research Laboratory

ASC: Aeronautical Systems Center

CBD: Commerce Business Daily

CCA: Central Contractor Registration

COTR: Contracting Officer's Technical Representative

CPFF: Cost-Plus-Fixed-Fee Contract

CRDA: Cooperative Research and Development Agreement

DCAA: Defense Contract Audit Agency

DFAR: Defense Federal Acquisition Regulation

DFAS: Defense Finance and Accounting Service

DoD: Department of Defense

ESC: Electronic Systems Center

FAR: Federal Acquisition Regulation

FFP: Firm-Fixed-Price Contract

FLC: Federal Laboratory Consortium

FY: Fiscal Year

GAO: General Accounting Office

GFE: Government-Furnished Equipment

GFM: Government-Furnished Material

ORTA: Office of Research and Technology Applications

PASS: Procurement Automated Source System

PCO: Procuring Contracting Officer

R&D: Research and Development

RDLP: Research and Development Limited Partnership

RFP: Request for Proposal

SADBUS: Small and Disadvantaged Business Utilization Specialist

SBA: Small Business Administration

SBIR: Small Business Innovation Research

Organizations Providing SBIR Assistance

DoD SBIR/STTR Help Desk

Addresses general questions about solicitations, program eligibility requirements, proposal preparation, contract negotiations, intellectual property protection, etc.

T: (800)382-4634 F: (800) 462-4128

E-mail: SBIRHELP@us.teltech.com www.acq.osd.mil/sadbu/sbir/

Defense Technical Information Center

DTIC Small Business Defense Technical Information Center 8725 John J. Kingman Road, STE 0944 Ft. Belvoir, VA 22060-6218 T: (800) 363-7247 F: (703) 767-8228 E-mail: sbir@dtic.mil www.dtic.mil/dtic/sbir

DTIC is the repository for the technical information produced by DoD research, development, testing and evaluation programs. Offers an extensive technical database to identify documents. Many other related services designed to facilitate a winning proposal.

Commercialization Matching System

SBA-SBIR Mail Code 6470 409 Third Street, SW Washington, DC 20416

Minority Business Development Agency

MBDA Regional Director 401 W. Peachtree Street, Suite 1715 Atlanta, GA 30308-3516 T: (404) 730-3300 F: (404) 730-3313

Minority Business Development Agency

MBDA Regional Director 55 E. Monroe Street, Suite 1406 Chicago, IL 60603 T: (312) 353-0182 F: (312) 353-0191

Minority Business Development Agency

MBDA Regional Director 1100 Commerce Street, Room 7B23 Dallas, TX 75242 T: (214) 767-8001 F: (214) 767-0613

Minority Business Development Agency

MBDA Regional Director 26 Federal Plaza, Room 3720 New York, NY 10278 T: (212) 264-3262 F: (212) 264-0725

Minority Business Development Agency

MBDA Regional Director 221 Main Street, Room 1280 San Francisco, CA 94105 T: (415) 744-3001 F: (415) 744-3061

Minority Business Development Agency

MBDA Regional Director 14th & Constitution Avenue, NW, Room H-6711 Washington, DC 20230

National Association of Small Business Investment Companies

1199 N. Fairfax Street, Suite 200 Alexandria, VA 22314 T: (703) 683-1601

National Venture Capital Association

1655 N. Fort Myer Drive, Suite 850 Arlington, VA 22209 T: (703) 524-2549

National Institute of Standards and Technology (NIST)

Acquisition and Assistance Division Building 301, Room B-132 Gaithersburg, MD 20899 T: (301) 975-2000

National Technical Information Service

5285 Port Royal Road Springfield, VA 22161 T: (800) 553-6847

Patent and Trademark Office (PTO)

2011 Crystal Drive, Suite 810 Arlington, VA 22202 T: (703) 305-8014

Small Business Administration

Office of Innovation, Research and Technology 409 Third Street, SW Washington, DC 20416 T: (202) 205-7777

On-Line Resources

Air Force Research Laboratory (AFRL)

www.afrl.af.mil

AFRL is the single laboratory for Air Force R&D. It strives to be a comprehensive source of technology solutions and advice for the Air Force on all technology issues.

Defense Technical Information Center (DTIC)

www.dtic.dla.mil

DTIC is part of the Department of Defense Scientific and Technical Information Program. DTIC contributes to the management and conduct of defense research and development.

National Technology Transfer Center (NTTC)

www.nttc.edu/nttc.html

Part of a nationwide network designed to link companies with federal laboratories. The purpose is to turn government research results into practical technology and/or commercial products.

Research and Technology Centers

gopher://cwis.usc.edu:70/11Research_and_Technology_Centers This gopher link will connect you to a number of online resources, including the Center for Applied Mathematical Sciences; the Institute for Robotics and Intelligent Systems; and the NASA Far West Regional Technology Transfer Center.

National Institute of Standards and Technology (NIST)

www.nist.gov

NIST offers a variety of services and programs to aid U.S. industry in improving its competitiveness and commercializing new technology.

Federal Laboratory Consortium

www.zyn.com/flc

House Small Business Committee

www.house.gov/smbiz/

Senate Small Business Committee

www.senate.gov/committee/small_business.html

Industry Net

www.industry.net

NASA Commercial Technology Network

http://nctn.hq.nasa.gov

Small Business Development Centers

Call the following Regional Office to find information (location/telephone/Fax number, etc.) for the Small Business Development Center in your state.

Region I

Boston, MA (617) 565-5590

Maine

Massachusetts

Connecticut

Rhode Island

New Hampshire

Vermont

Region II

New York City (212) 264-1450

New Jersey

New York

Virgin Islands

Puerto Rico

Region III

Philadelphia, PA (215) 580-2807

Pennsylvania

Washington D.C.

Delaware

West Virginia

Maryland

Virginia

Region IV

Atlanta, GA (404) 347-4999

South Carolina

Florida

Alabama

Georgia

Kentucky

Mississippi

Tennessee

North Carolina

Region V

Chicago, IL (312) 353-0357

Wisconsin

Minnesota

Michigan

Illinois

Indiana

Ohio

Region VI

Dallas, TX (214) 767-7611

Arkansas

Louisiana

Oklahoma

Texas

New Mexico

(continued on the next page)

Small Business Development Centers (cont.)

Region VII

Kansas City, KN (816) 374-3316

Nebraska

Iowa

Missouri

Kansas

Region VIII

Denver, CO (303) 294-7021

Utah

South Dakota

North Dakota

Montana

Colorado

Wyoming

Region IX

San Francisco, CA (415) 744-6402

Nevada

Arizona

Hawaii

California

Guam

Region X

Seattle, WA (206) 553-5676

Washington

Oregon

Idaho

Alaska

State SBIR Program Support

There are a growing number of organizations in every state that support the SBIR Program. We have provided you an initial contact point in each state in order to assist you in beginning your search for assistance.

Alabama

Small Business Development Center 1717 11th Avenue South, Suite 419 Birmingham, AL 35294-4410 T: (205) 934-7260 F: (205) 934-7645

www.ASBD004@UABDPO.DPO.UAB.EDU

Counseling in business planning, proposal writing, technical assistance. Educational seminars, limited financial assistance. Employs experienced SBIR winners to critique applications prior to submission.

Alaska

Alaska Science and Technology Foundation 4500 Diplomacy Drive, Suite 515 Anchorage, AK 99508-5918 T: (907) 272-4333 F: (907) 274-6228

Provides SBIR Bridge Grants of up to \$50,000 for companies completing Phase I and moving to Phase II. Conducts several workshops on SBIR opportunities.

Arizona

Arizona Department of Energy 3800 N. Central, Suite 1200 Phoenix, AZ 85012 T: (602) 280-1402 F: (602) 280-1445

Available library of documents related to SBIR Program, a database of prior winners, solicitations, etc. Bridge funding program for Phase I winners.

Arkansas

Arkansas Science & Technology Authority 100 Main Street, Suite 450 Little Rock, AR 72201 T: (501) 324-9006 F: (501) 324-9012

Sends interested businesses solicitation announcements from the federal agencies. Offers assistance in targeting specific SBIR proposals.

California

California Trade and Commerce Agency Office of Small Business 801 K Street, 17th Floor Sacramento, CA 95814 T: (916) 445-6408 F: (916) 322-5084

Management and technical assistance includes counseling expertise, application assistance, locating alternative funding for projects and referrals for grant writing assistance.

Colorado

CU Business Advancement Center CU-BAC 3333 Iris Avenue, Suite 101 Boulder, CO 80301 http://www.colorado.edu/cubac/

Professional staff complete market assessments of new technologies and new products and guide the development of business or commercialization plans. Provides database literature searches to locate technical reports, patent filings, etc.

Connecticut

Connecticut Innovations, Inc. 999 West Street Rocky Hill, CT 06067 T: (860) 563-5851 F: (860) 563-4877

E-mail: cii@cii.rocky-hill.ct.us

Maintains resource material and offers workshops, financing, grants, academic partnerships, referrals, counsel, product marketing, etc. Provides up to \$50,000 (competitive basis) for marketing to commercialize new products developed under the federal SBIR Program.

Delaware

Delaware Economic Development Office 99 Kings Highway Dover, DE 19901-0735 T: (302) 739-4271 F: (302) 739-5749

Workshops and technology-related information, databases, hotlines, etc. Bridge grants available up to \$50,000.

District of Columbia

Small Business Development Center Howard University 2600 Sixth Street, Room 128 Washington, DC 20059 T: (202) 806-1550 F: (202) 806-1777

Florida

Enterprise Florida Technology Development Board 390 North Orange Avenue, Suite 1300 Orlando, FL 32801

T: (407) 316-4600

F: (407) 316-4599

Technical reviews, business plan consulting, management and operations assistance, prototype development.

Georgia

Advanced Technology Development Center 430 10th Street, NW, Suite N116 Atlanta, GA 30318

T: (404) 894-3575

F: (404) 894-4545

Technical, business, and management support. Information resources.

Hawaii

High Technology Development Corporation 2800 Woodlawn Drive, Suite 100 Honolulu, HI 96822 T: (808) 539-3806 F: (808) 539-3611

Workshops, conferences, matching grant program (provides up to 50% of the Phase I SBIR award; up to \$25,000 as a matching grant). Maintains resource material library.

Idaho

Idaho Small Business Development Center 1910 University Drive Boise, ID 83725 T: (208) 385-1640 F: (208) 385-3877

Regional technical libraries, technical searches and assistance are developed on a client-specific basis.

Illinois Department of Commerce and Community Affairs 620 E. Adams Street, 3rd Floor Springfield, IL 62701 T: (217) 782-1430 F: (217) 785-6328

Information, workshops, library of resources, business network, one-on-one assistance, training, support networks.

Indiana

Indiana Business Modernization and Technology Corporation 1 North Capitol, Suite 925 Indianapolis, IN 46204-2242 T: (317) 635-3058 or (800) 877-5182 F: (317) 231-7095

Financial, technical and business assistance, proposal writing assistance, workshops, proposal critiques, referral assistance. Loans up to \$50,000.

Small Business Development Center 137 Lynn Avenue Ames, IA 50014 T: (515) 292-6351 F: (515) 292-0020

Consultation services to support potential SBIR applicants. Seminars, publications, business resources, reference materials and specialized services offered.

Kansas

Kansas Technology Enterprise Corporation 214 SW 6th Street, Suite 100 Topeka, KS 66603-3869 T: (913) 296-5272 F: (913) 296-1160

Networking programs, training, seminars, technical consulting. Matching grants (up to \$5,000 given to selected companies to assist in preparing for Phase I or Phase II proposals). Applied Research Fund (up to 40% of funds needed for technology companies to do applied research leading to a prototype). Venture Capital Fund (fund provides seed capital for commercialization projects). Bridge Loans up to \$50,000.

Kentucky

Cabinet for Economic Development Business and Technology Branch 2200 Capital Plaza Tower, Room 2224 Frankfort, KY 40601 T: (502) 564-4252, Ext. 4203 F: (502) 564-5932

Offers up to \$30,000 per grant in bridge grants to Phase I awardees. Library of current solicitation information. Peer review of proposals.

Louisiana

Louisiana Economic Development Corporation P.O. Box 94185 Baton Rouge, LA 44185 T: (504) 342-5675 F: (504) 342-0142

Several creative funding options available.

Maine

Maine Science and Technology Foundation 87 Winthrop Street Augusta, ME 04330 T: (207) 621-6350 F: (207) 621-6369

An SBIR technical assistance program is currently being developed.

Maryland

Maryland Department of Business and Economic Development (DBED) 217 East Redwood Street, 23rd Floor Baltimore, MD 21202 T: (410) 767-6301 F: (410) 767-6911

Grants to engage experts for technical assistance. Various financing programs to provide working and equity capital to Phase I winners as they prepare Phase II proposals. Holds state wide conferences. Workshops and on-line database of winning proposals.

Massachusetts

Massachusetts Technology Development Corporation 148 State Street, 9th Floor Boston, MA 02109 T: (617) 723-4920 F: (617) 723-5983

Venture capital funding, seminars, workshops.

Michigan

M.E.R.R.A 2901 Hubbard Road, Suite B106 Ann Arbor, MI 48105-2000 T: (734) 930-0033 F: (734) 930-0145 www.Mark@MERRA.org

Technology evaluation services, university linkages, bridge grants (up to \$50,000), assistance in Phase III commercialization planning, workshops, grant writing assistance, etc.

Minnesota

Minnesota Project Innovation Inc. 111 Third Avenue South, Suite 100 Minneapolis, MN 55401-2551 T: (612) 338-3280 F: (612) 338-3483

Library of previous award solicitations/proposals, proposal review assistance, database search support (matches firm's technological capabilities and interests with federal solicitation subtopics), conferences/workshops.

Mississippi

Mississippi Enterprise For Technology Building 1103, Room 140 Stennis Space Center, MS 39529-6000 T: (228) 688-3144 F: (228) 688-1064

Library, database access, technical assistance, partnering opportunities, and assistance with proposal preparation and review.

Missouri

Missouri Department of Economic Development Office of High Technology P.O. Box 1157 Jefferson City, MO 65102 T: (314) 526-1366 F: (314) 751-7258

Identifies specialties of university researchers, provides copies of solicitations. Agency focus is on manufacturing, telecommunications, biotechnology, and electronic materials.

Montana

Montana Business Connections: The Entrepreneurship Center Gallagher Business Bldg., Suite 257 The University of Montana Missoula, MT 59812 T: (406) 243-4009 F: (406) 243-2086

Newsletter, reference library, mentor program, proposal critiques, seed capital funds, applied R&D research funding, workshops and conferences.

Nebraska

Nebraska Department of Economic Development 301 Centennial Mall South Lincoln, NE 68509 T: (402) 471-3782 or (800) 426-6505 F: (402) 471-3778

Literature searches, identifying experts, SBIR literature, database library, newsletter, annual conference, SBIR workshop, some financing opportunities, proposal preparation.

Nevada

Commission on Economic Development Capital Complex 5151 South Carson Street Carson City, NV 89701-6650 T: (702) 687-4325

F: (702) 687-4450

E-mail: bizinfo@bizopp.state.nv.us

SBIR library, seminars, proposal assistance and review.

New Hampshire

New Hampshire Department of Resources and Economic Development Division of Economic Development 172 Pembroke Road P.O. Box 1856 Concord, NH 03302-1856 T: (603) 271-2591 F: (603) 271-6784

Matching grants up to \$50,000 for product development or process improvement, conference, access to SBIR information, solicitation evaluation assistance.

New Jersey

New Jersey Commission on Science and Technology 28 West State Street P.O. Box 832 Trenton, NJ 08625-0832 T: (609) 984-1671 F: (609) 292-5920 www.SBIR@NJCST.gov

Conferences, bridge loan program, technical liaisons, small business market research, and SBIR proposal preparation, one-stop HELP (800) 432-1832.

New Mexico

Los Alamos Economic Development Corporation 190 Central Park Square Los Alamos, NM 87544 T: (505) 662-0001 F: (505) 662-0099

Assistance in proposal preparation, SBIR libraries, training seminars, directory of SBIR winners, conferences.

New York

NY State Science and Technology Programs 99 Washington Avenue Albany, NY 12210 T: (518) 473-9746 F: (518) 473-6876

Workshops, technical assistance, resource referrals. Individual technology councils throughout the state.

North Carolina

North Carolina Technological Development Authority, Inc. P.O. Box 13169
Research Triangle Park, NC 27709-3169
T: (919) 990-8558
F: (919) 558-0156

Workshops on SBIR, business library, proposal review assistance, support networks

North Dakota

Center for Innovation and Business Development University of North Dakota P.O. Box 8372 Grand Forks, ND 58202-8372 T: (701) 777-3132 F: (701) 777-2339

SBIR application assistance, library, assistance in locating principal investigator. Assists in administration of awards, business and marketing planning for commercialization and offers proposal critiques. Provides workshops and SBIR awardee directory. Provides funding for applied research and development as well as market and business planning for commercialization efforts.

Ohio

Ohio Department of Development Ohio's SBIR Program 77 South High Street, 25th Floor Columbus, OH 43216-1001 T: (614) 466-3887 F: (614) 644-5758 www.odod.ohio.gov/tech/sbir

Seminars, database of past proposals, proposal preparation assistance, copies of solicitations, application reviews, partnering identification, postaward assistance, newsletter, low cost space.

Oklahoma

Oklahoma Center for the Advancement of Science and Technology 4545 N. Lincoln Boulevard, Suite 116 Oklahoma City, OK 73105-3413 T: (405) 524-1357 F: (405) 521-6501

SBIR incentive funding (defrays portion of a firm's cost in preparing SBIR proposal). Provides matching funding (based on Phase I award) after Phase II application is submitted. Database of SBIR information.

Oregon

Regional Services Institute Eastern Oregon State University 1410 "L" Avenue LaGrande, OR 97850 T: (541) 962-3672

Assistance in proposal writing.

Pennsylvania

Pennsylvania Department of Commerce Office of Technology Development 464 Forum Building Harrisburg, PA 17120 T: (717) 787-4147 F: (717) 772-5080

Seed venture capital fund, technical and business assistance, grant program (up to \$35,000).

Rhode Island

Rhode Island Partnership for Science and Technology One West Exchange Street Providence, RI 02903 T: (401) 222-2601 F: (401) 222-2102

Workshops, assistance with proposal preparation, proposal preparation grants (\$1,000), assistance with consultant fees, and bridge grants (50% of a Phase I grant or up to \$25,000). Preperation and review assistance of proposals.

South Carolina

Enterprise Development Inc. of South Carolina P.O. Box 1149 Columbia, SC 29202 T: (803) 252-8806 F: (803) 242-0056 E-mail: tumblin@infoave.net

SBIR counseling, proposal preparation, information on patent trademark and copyright, commercialization counseling, SBIR information, refinement of technology for real world manufacture and application.

South Dakota

South Dakota SBIR Center Dakota State University Madison, SD 57042-1799 T: (605) 256-5313 F: (605) 256-5174

SBIR library, workshops, newsletter, proposal preperation assistance.

Tennessee

Tennessee Resource Valley P.O. Box 23770 Knoxville, TN 37933-1770 T: (423) 694-6772 F: (423) 694-6429

Newsletter, programs on SBIR, assistance with proposal preparation marketing support for follow-on funding of Phase I winners.

Texas

Texas Department of Economic Development P.O. Box 12728 Austin, TX 78711-2728 T: (512) 936-0234 F: (512) 936-0433

Programs, SBIR Program information clearinghouse, workshops, conferences.

Utah

Utah Procurement Outreach Program
Department of Community & Economic Development
324 South State, Suite 504
Salt Lake City, UT 84111
T: (801) 538-8839
F: (801) 538-8825

Loan program, marketing and business planning services, conferences, mentoring, networking, provides access to university support, business resource center.

Vermont

Vermont Department of Economic Development 109 State Street, 4th Floor Montpelier, VT 05609

Assistance with proposal reviews and preparation.

Virginia

Center for Innovative Technology 2214 Rock Hill Road Herndon, VA 22170-4005 T: (703) 689-3044 F: (703) 689-3041

Joint university/company grants, engineering and technology transfer support, assists in locating resources, business assistance, conferences.

Washington

Commerce, Trade and Economic Development 906 Columbia Street, SW P.O. Box 48300 Olympia, WA 98504-8300 T: (206) 586-0265

Offers a variety of support including access to capital, business and job retention, and expansion and expert assistance.

West Virginia

West Virginia Development Office Building 6, Room B-517 Capital Complex Charleston, WV 25305-0311 T: (304) 558-3083 F: (304) 558-0449

Assistance with proposal preparation information resource, seminars, workshops.

Wisconsin

Wisconsin Department of Commerce P.O. Box 7970 Madison, WI 53707-7970 T: (608) 267-0313 F: (608) 267-0436

Conferences, workshops, library, assistance with proposal preparation and reviews, funding support,

Wyoming

Science, Technology and Energy Authority P.O. Box 3295 Laramie, WY 82071-3295 T: (307) 766-6797 F: (307) 766-6799

Various assistance aimed at improving SBIR proposals, conferences.

State SBIR Program Support Source: in part; BMDO 1998 State Outreach Notebook



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